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Research Papers

Omnichannel Integration: Literature Review and Future Research Agenda

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Abstract

The increasing use of information and communication technologies has brought a significant change in the traditional ways used by retailers to deliver their products and services. Concerning this, the omnichannel retail model is gaining popularity among the retailers. While emphasising various channels adopted by the retailers, this paper aims to explore multiple drivers, intervening variables and consequences of omnichannel integration, and how retailers can transit in the best way that ultimately provides a seamless experience to the customers. The systematic literature review of 45 articles is used to underpin the omnichannel integration conceptual framework based on significant drivers and their impact on omnichannel integration performance. This study provides a roadmap for future researchers to empirically investigate relationships between different constructs of the study. Further, researchers should integrate the retailers and customers model to deliver a seamless experience.

Keywords: *Omnichannel integration, Augmented reality, Realism of experience, touchpoints, Consumer behaviour, Customers' lifetime value*

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INTRODUCTION

The advent of digitalisation and information and communication technology (ICT) has severely changed the outlook of the retail sector. These developments in new technologies, the explosion of channels and touchpoints, and the increased internet use help customers interact and connect with the firms more quickly, leading to unprecedented growth in online purchasing (Pentina and Hasty, 2009). All these factors have significantly impacted consumer behaviour. Keeping in view these changes in consumer behaviour, retailers have started adding new touchpoints to their supply chain to reach the customers as their multichannel strategy (Verhoef, Neslin & Vroomen, 2007; Blattberg, Kim & Neslin, 2008). With these recent breakthroughs, omnichannel (OC) retailing has become the nuance platform where customers can seamlessly switch between different channels for purchase. OC marketing integrates organisations' channels, practices, and tactics to provide a seamless experience to the customers anytime, anywhere, and on any device. Rigby (2011) was the first to coin the term Omnichannel Retailing (OCR) in the literature as an "integrated sales experience that merges the information-rich experience online shopping with the advantages of physical stores". He claimed that OC retailers offer broader prospects for developing shopping experiences and better demand forecasting by generating more significant volumes of in-depth customers' demand data. Hence, retailers are required to merge all the channels and offer transparency on their range of products and channels so that the customers feel connected across all the channels and provide personalised services that make it convenient and easy for them to engage with the retailer and have a seamless experience (Planet Retail, 2016).

Most significantly, OCR has blurred the boundaries between physical and online channels (Brynjolfsson et al., 2013). Despite its importance in practice and research, Verhoef, Kannan and Inman (2015), Beck and Rygl (2015), and Shen, Li, Sun and Wang (2018) claim that the academic literature in OCR is still in its evolving stage, which requires proper research for its better conceptualisation. Being an emerging concept, the scholars (Chopra, 2016; Berman and Thelen, 2018) argue that a thorough evaluation of threats and opportunities caused by omnichannel services marketing needs to be undertaken by the firms to provide an enriching experience with the customers. Recently, scholars namely Akter, Hossain, Aditya, Hossain and Kattiyapornpong (2018), Mishra, Singh and Koles (2021), and Gerea, Gonzalez-Lopez and Herskovic (2021) have conducted a systematic review on OC literature. These scholars suggested future research agenda linking traditional theories with OC, identifying the major drivers and hindrances, integrating multiple touchpoints, services quality perceptions etc., in the OC framework. However all these studies did not focus on comprehensive OCR framework that considers service usage, augmented reality, the realism of experience and touchpoints, and their impact on consumer decision-making (Verhoef et al., 2015; Bexandale, Macdonald & Wilson, 2015; Hilken, Heller, Chylinski, Keeling, Mahr & de Ruyter, 2018; Bennet & Azhari, 2018).

Further, most of the research studies on OCR are from retailers' perspective, with a focus on supply chain and logistics management (Hubner et al., 2016; Galipoglu et al., 2018; Ieva & Zilani, 2018; Larke et al., 2018; Lim & Srai, 2018; Wollenburg et al., 2018; Daugherty et al., 2019; Lafkihi et al., 2019). A very few studies are customer-centric that urge to understand the customer behaviour with the ongoing changes in retailing formats to provide them smooth shopping experience (Hure et al., 2017; Park & Lee, 2017; Kazancoglu & Aydin, 2018; Li et al., 2018; Frasquet et al., 2019; Lee et al., 2019). Based on the backdrop described above, the present study makes a comprehensive attempt to explore drivers and consequences of OCR from customers' perspectives. The paper proceeds in the following way. First, the methodology for the review of literature is discussed. Second, a literature review on OCR discusses its concept, drivers, mediating and moderating variables, and consequences. Third, the research gap and agenda are discussed. Lastly, discussion and implications followed by the conclusion are discussed.

Methodology

This study follows the two-stage systematic literature review in line with the guidelines of Paul (2019). The systematic literature review enabled us to pinpoint the theories and concepts that are significant and primarily used in omnichannel retailing studies (Paul, 2019). In stage one, the review was planned. In this phase, we identified a need for a literature review in OC marketing concerning retailing. Even though theoretical knowledge building in the field has been accelerating, OC integration is still in its infancy (Beck & Rygl, 2015; Verhoef et al., 2015). Based on systematic research review methods (Canabal & White, 2008; Terjesen et al., 2016), an online database, namely Google Scholar, was searched upon using keywords: omnichannel marketing, omnichannel retailing, channel integration, and customer/ consumer behaviour. Google Scholar is used to select research papers as it considers research papers from different databases available in marketing and provides the number of citations of every article.

In the second stage, the screening criteria are decided. Both the conceptual and empirical research papers were considered for the literature review. The conceptual paper helped in the theoretical underpinning of OCR as it is in its developing phase that requires better understanding. At the same time, empirical papers helped to understand and validate the relationships between the constructs. Rigby (2011) propounded the OCR concept in 2011; hence the research papers published during 2011-2021 are chosen for review. After selecting the time frame, the next step includes the selection of papers. The research focusing on the evolution of OC, the theoretical underpinning of OC, OC integration and its impact, drivers and barriers of OC, online and offline interactions were considered for inclusion. Lastly, all identified research papers were examined to know if there was any duplication of papers. Overall, 45 articles were selected for further review as these articles meet our selection criteria. Table 1 presents the list of articles selected for the review.

Table 1: Summary of articles included in the review

S.no.	Journals listed in ABDC ranking list 2019	No. of articles	Select Papers
1.	Journal of Retailing A*	5	Baxendale, Macdonald & Wilson (2015),Cao and Li (2015), Herhousen et al. (2015), Verhoef, Kannan, & Inman (2015), Valentini et al. (2020)
2.	Decision Support Systems A*	2	Shen, Li, Sun, & Wang (2018), Li, Liu, Lim, Goh, Yang & Lee (2018)
3.	Journal of Marketing A*	2	Avery et al. (2012), Lemon &Verhoef (2016)
4.	Journal of the Academy of Marketing Science A*	2	Singh, Brady, Arnold & Brown (2017), Hilken et al. (2017)
5.	International Journal of Hospitality Management A*	1	Hwang, Baloglu&Tanford (2019)
6.	Industrial Marketing Management A*	1	Hossain et al. (2020)
7.	International Journal of Consumer Studies A	1	Mishra, Singh and Koles (2021)
8.	Journal of Retailing and Consumer Services A	5	Poncin&Mimoun (2014), Beck and Rygl (2015), Javornik (2016), Lee & Nguyen (2017), Poushneh& Vasquez-Parraga (2017)
9.	Harvard Business Review A	1	Rigby (2011)
10.	International Journal of Retail & Distribution Management. A	2	Farasquet, Descals and Ruiz-Molina (2017), Berman and Thelen (2018)
11.	International Journal of Physical Distribution & Logistics Management A	1	Larke, Kilgour& O'Connor (2018)
12.	International Journal of Electronic Commerce A	1	Piotrowicz&Cuthbertson (2014)
13.	Journal of Advertising Research A	1	Wind & Hays (2016)

14.	Journal of Business Research A	1	Wang, Kim, Ko and Liu (2016)
15.	Internet Research A	1	Huang & Hsu-Liu (2014)
16.	Marketing Letters A	1	Neslin et al. (2014)
17.	Cornell Hospitality Quarterly A	1	Tanford (2016)
18.	The TQM Journal B	1	Ieva & Ziliani (2018)
19.	Journal of Research in Interactive Marketing B	4	Limbu, Wolf & Lunsford (2012), Mortazavi (2014), Hilken et al. (2018), Hinson, Boateng, Renner & Kosiba (2019)
20.	International Journal of Human Computer Interaction B	1	Shin (2016)
21.	Business Horizons B	1	Parise et al. (2016)
22.	International Review of Retail, Distribution and Consumer Research B	1	Hickman et al. (2020)
23.	Electronic Commerce Research and Applications C	1	Zhang, Ren, Wang & He (2018)
24.	Journal of Digital & Social Media Marketing C	1	Bhalla (2013)
25.	Others (not listed in ABDC)	6	Seck& Philippe (2013), Belu & Marinoiu (2014), McCormick et al. (2014), Juaneda-Ayensa et al. (2016), Hossain et al. (2017), Gerea et al. (2021)
	Total	**45**	

LITERATURE REVIEW

Omnichannel Retailing

With a high reliance on information technology, retailers face a rapidly changing market landscape (Belu & Marinoiu, 2014). The retailing channels have seen a significant transformation in the last two decades because of internet technology. Table 2 presents studies that show the evolution of retailing channels from single-channel to omnichannel. The offline retailing channels (physical stores), online channels (e-commerce sites/websites, direct marketing channels, etc.), and mixed channels have defined the new retail landscape boundaries, resulting in a multichannel shopping experience. Nowadays, customers can interact, buy, and sell through varied interface channels with the retailer (Verhoef et al., 2015). Specifically, since multichannel retailing involves selling goods and services through multiple channels independently (Beck & Rygl, 2015), a lack of integration is experienced while transiting through different channels. The development of OCR overcomes this issue by integrating data and services from varied available channels to switch from multichannel to omnichannel. Thus, retailers are switching to OCR rather than focusing on multichannel strategies to constantly deliver seamless services simultaneously and interchangeably (Brynjolfsson et al., 2013).

Academic literature on OCR has seen a tremendous increase after 2015 (Verhoef et al., 2015). OCR is considered the seamless experience based on coordinating multichannel offerings and touchpoints across varied channels with optimum channel performance (Levy, Weitz & Grewal, 2013, p.67; Verhoef et al., 2015). In the same context, Rigby (2011) previously remarked that OCR considers complete integration of online and offline channels in which the physical and digital worlds merge without any inconsistencies between the two. It is described as the set of actions that involve selling goods and services through multiple channels where customers experience full channel interaction; simultaneously, retailers have complete control over channel integration (Beck & Rygl, 2015). In the same vein, scholars such as Zhang, Bilgihan, Kandampully and Lu (2018) and Shen et al. (2018) remarked that the available channels must be managed to provide a harmonious and homogeneous cross-channel experience to all the customers anytime and anywhere. Thus, OCR reflects a comprehensive perspective on channel integration, considering the range of channels and their interactions between customers, brands, and retailers (Verhoef et al., 2015). It considers both multichannel and cross channel integration, which are slightly different from each other. Cao and Li (2015) have defined cross-channel integration as the level to which a firm can coordinate its channels' objectives, design, and deployment to cooperate and offer particular benefits to its customers. Basically, it is the CCI by which cross-channel service system is facilitated by OCR, which coordinates several activities for an effective OC environment in the organisation. Customers can shift between a few specific channels in CCI but not among all accessible channels. Since channels are managed independently in multichannel retailing, CCI is considered the intervening step between multichannel and omnichannel retailing. Among the existing channels, cross-channel and omnichannel strategies are becoming more dominant among retailing researchers (Brynjolfsson et al., 2013).

Table 2: Evolution of Omnichannel Retailing (Select Papers)

S.no.	Authors/Year/Journal/ Google Scholar Citations as of 15th February 2022/ Ranking as per ABDC list(2019)	Context/ Nature of Study	Challenges	Objective	Findings
1	Verhoef, Neslin & Vroomen (2007) *International Journal of Research in Marketing* Cited by 1217 A*	Multichannel customer management	The firm may perhaps lose the customer in the course of making choices among shopping channels.	To investigate customers' shopping choices between the available channels.	Findings conclude that service and privacy are two common purchase attributes for Internet-store research shopping. Service improvement and reduced privacy risk impact channel choice among the customers.
2	Rigby (2011) *Harvard Business Review* Cited by 1006 A	Omnichannel retailing	Mobilising firms from one channel to another and adopting new technology is a great challenge for the firms.	To provide a guide to the future of shopping to the retailers.	To be successful, the retailers must follow omnichannel strategies such as Desktop videoconferencing, mobile applications, social networks, collaborative groupware, shared knowledge bases, instant messaging, and crowdsourcing.
3	Belu & Marinoiu (2014) *The Romanian Economic Journal* Cited by 15 Not in ABDC	Multichannel and omnichannel retailing	The development of online channels primarily impacts traditional physical stores.	To investigate different distribution channels models adopted by retailers in the Romanian retail market, focusing on the omnichannel strategy.	The retailers have adopted new technologies and have transitioned from offline to online channels that enable the customers to interact with the retailer seamlessly.
4	McCormick et al. (2014) *Textile Progress* Cited by 134 Not in ABDC	Multichannel and omnichannel retailing (Fashion retailing)	How the technologies will combine to deliver a seamless experience to customers.	To investigate the factors that threaten and drive growth in the fashion retail market and analyse the impact of omnichannel retailing on fashion retail.	The surge of ICT has emphasised the adoption of online retail in the fashion industry, enabling retailers to communicate with buyers across the globe instantaneously.
5	Verhoef, Kannan, & Inman (2015) *Journal of Retailing*	Multichannel and omnichannel retailing	The changing marketing landscape is posing a threat to retailers.	To discuss the development from multichannel retailing to omnichannel retailing.	Put forward a new research agenda in the form of "calls for further research" in omnichannel and customer experience across

	Cited by 2223 A*				channels and the customer's journey in different retail mixes.
6	Beck & Rygl (2015) *Journal of Retailing and Consumer Services* Cited by 675 A	Multichannel and omnichannel retailing	Key challenges include data integration, organisational structure, channel evaluation and coordination, consumer analytics, and channel allocation.	To propose a categorisation of multi, cross and omnichannel retailing through a literature review.	Taxonomy on multiple channels retailing classifies whether channel interaction can be triggered by the customer or is controlled by the retailer; and how many and what channels are considered.
7	Cao & Li (2015) *Journal of Retailing* Cited by 486 A*	Cross-channel integration	Any changes or efforts to move consumers from one channel to another create the risk of disappointing these customers.	To propose a conceptual framework to describe whether and under what firm-level conditions cross-channel integration impacts firm sales growth.	Cross-channel integration excites sales growth, but firms negative online experience and physical store presence weaken this impact.
8	Shen, Li, Sun, & Wang (2018) *Decision Support Systems* Cited by 185 A*	Omnichannel retailing	Attracting enough omnishoppers is crucial to the success of an omnichannel strategy	Using Wixom & Todd model, understand how channel integration quality and perceived fluency affect omnichannel service usage.	Findings conclude that a fluent cross-channel experience in omnichannel service enables customers to further access and explore the omnichannel services
9	Berman & Thelen (2018) *International Journal of Retail and Distribution Management.* Cited by 77 A	Multichannel and omnichannel retailing	Internal technological challenges, organisation silos and poor operation execution are the major barriers to the successful implementation of omnichannel marketing	To describe the advantages of omnichannel marketing and explain the ways by which retailers can best transition from multichannel marketing to omnichannel marketing.	Identifies four stages between a pure multichannel and a pure omnichannel marketing strategy that enables retailers to identify their current operating stage, view gaps between their current and desired level of channel integration and develop and implement the necessary strategic initiatives to move a higher level.
10	Zhang, Ren, Wang & He, (2018) *Electronic Commerce Research and Applications* Cited by 165 C	Channel integration omnichannel environment	Uncertainty avoidance behaviour among customers is a major challenge.	To investigate consumer responses in the omnichannel retail environment, focusing on consumer empowerment.	In an omnichannel retailing environment, consumers having more trust and satisfaction, perceive more empowerment and thus, have full shopping intention to benefit the retailers.
11	Li, Liu, Lim, Goh,	Cross-channel	Leveraging on CCI to assimilate	Grounded on the Push-Pull-	Based on the PPM framework,

	Yang & Lee, (2018) *Decision Support Systems* Cited by 142 A*	integration	and coordinate multiple online and offline channels for engaging and retaining customers is an elusive challenge for retailers.	Mooring (PPM) framework to examine the pushing, pulling, and mooring roles in shaping customers' reaction to CCI in omnichannel retailing.	CCI, through service investments can aid retailers in retaining customers by generating trust as well as cultivating the customers' dedication- and constraint-based motivations.
12	Herhousen et.al. (2015) *Journal of Retailing* Cited by 635 A*	Channel Integration	Designing channels to grow or maintain a retailer's loyal research shopper base is a major challenge.	To test whether and how online and offline integration (OI) leads to a competitive advantage for retailers.	Customers value an integrated Internet store, and that OI leads to more favourable behaviour toward a retailer and its Internet store, leading to a competitive advantage for retailers.

Drivers

While scanning the literature, varied drivers such as perceived service quality, usefulness, fluency, touchpoints, brand love and augmented reality impacting OCI are discussed in a fragmented manner. As discussed previously, firms nowadays extensively use the OCR model to improve customer experience. Beck and Rygl (2015) have examined the association of enriched market value with omnichannel adoption. An actual omnichannel experience is when customers can easily switch between the available channels as per their shopping requirements (Frazer &Stiehler, 2014). Thus, the retailers must deliver exclusive customised services that meet the customer needs to gain a competitive advantage. Hence, research based on evaluating and understanding service quality from an omnichannel retailing perspective is gaining attention among academicians and practitioners (Akter et al., 2018; Badrinarayanan, Becerra, & Madhavaram, 2014). Sousa and Voss (2006) conceptualise service quality in a multichannel service setting as the points of exchanges between a service provider and its customers. They described integration quality as an essential component of multichannel service quality that provides a seamless service experience across channels. Customers build their service quality perceptions depending on the channels explored by them during their purchase journey (Seck & Philippe, 2013). An integrated Internet store positively impacts service quality and reduces risk by combining online and offline channels according to their specific capabilities (Herhousen et al., 2015).

With the advent of information technology, technology adoption research introduced the Technology Acceptance Model (TAM) (Davis, 1989). OCR, being based on technology adoption, the TAM highlights perceived usefulness as an essential element as many customers are unwilling to use the technology as required in multichannel retailing. Perceived usefulness is how the usage of technology enhances the person's job performance. Wixon and Todd (2005) constructed a research model consistent with TRA, TAM, and UTAUT proposed by Venkatesh et al. 2003, in which he claimed that usefulness and ease of use impact the behavioural intentions of using a system to undertake some task.

On the same ground, while reviewing information processing research, the concept of fluency originates that refers to the ease of information processing (Reber et al., 2004). Fluency is considered a significant factor that helps shape users' trust, perceived cognitive effort, and eventually, builds judgment about their choice in online shopping (Cassab & Maclachlan, 2006, Im, Lennon & Stoel, 2010). Majrashi and Hamilton (2015) define perceived fluency as the extent to which customers are allowed to shop freely among the range of channels and how they experience cross-channel. The concept of fluency has been extended to the cross-platform service context and allied with channel transitions and migrations, thus acting as an essential factor for cross channel user experiences (Waljas et al., 2010; Majrashi & Hamilton, 2015; Shin, 2016).

The emergence of Information communication technology (ICT) led to the development and improvisation of interactive websites and other advanced digital channels. Since the essence of OCR lies with the integration of multiple channels touchpoints, ICT has also made the customers habitual in using multiple channels to make a single purchase (Hossain et al., 2017). Subsequently, the retailers are required to design such a digital model that is convenient for the customers to reach the brand. Touchpoint is considered one of the significant parameters for the same. Touchpoints refer to the customers' direct or indirect interaction with the brand (Baxendale, Macdonald & Wilson, 2015). According to Baxendale et al. (2015), touchpoints are vital for providing exposure and creating a better experience for the customers. Furthermore, value is provided to the customers by the physical and online touchpoints collectively, which can be tricky to achieve when both the channels work in segregation (Verhoef et al., 2015). In the literature, several customer touchpoints are distinguished as verbal/non-verbal, traditional/modern, personal/non-personal, or a combination of touchpoints. Further, various other touchpoints emerged are related to mobile (i.e. messaging, apps etc.); website (design, email); and different generic touchpoints such as online advertising, customer service, loyalty programmes, telemarketing, physical store etc. (Baxendale et al., 2015; Wind & Hays, 2016; Ieva & Ziliani, 2018). The developments of these touchpoints are influenced by significant forces like advancement in science and technology, sceptical and empowered customers, expansion of media landscapes, and tempestuous and high connections around the world (Wind & Hays, 2016). The touchpoints significantly impact organisational outcomes like profitability, brand image, and customer loyalty.

Another construct that emerged in the literature as the driver of omnichannel integration is brand love. Caroll and Ahuvia (2006, p.5) define brand love as: "the degree of passionate, emotional attachment a satisfied consumer has for a particular trade name". Further, Albert, Merunka and Valette-Florence (2007); Batra, Ahuvia and Bagozzi (2012) have identified two significant dimensions of brand love: brand attachment and brand trust. According to Hinson, Boateng, Renner and Kosiba (2019), brand trust directly as well as indirectly impact brand loyalty via brand attachment. Various researchers such as Kwon and Lennon (2009); Jones and Kim (2010); Farasquet, Descals and Ruiz-Molina (2017) have found the interplay between the offline and online customers' behaviour, attitudes, emotions, retailers' reputation and website quality, with an intention on the conversion of offline trust to online trust. According to Badrinarayan, Becerra, Kim and Madhavaram (2012), there is an association between trust in the physical and the online stores. The customers' attitude towards the physical store retailers positively determines the attitude towards the online channel retailers. Such a positive attitude shifts the customers' search intention of product information from offline stores to online stores (Kim & Park, 2005). Therefore, multichannel retailers must make strong efforts to build trust and attachment towards the brand for building customer loyalty.

The introduction of online and digital channels has drastically changed the retail business models including customer experience (Verhoef et al., 2015, Homburg et al., 2017) that has been tremendously changed because of the development of Augmented Reality (AR). Lemon and Verhoef (2016) remarked that it is complex to design, manage and monitor the total customer experience and empower customers to augment and customise such experiences. However, when synergistically integrated with the customers' perception of the physical environment in real-time, the virtual content enables the customers to have embedded, embodied and extended experiences (Hilken et al. 2018). The conceptual foundation on AR is majorly based on three principles of embedding, embodiment and extension. Mobile technology and AR have lessened the gap between offline and online retailing (Brynjolfsson et al., 2013), thus enabling the retailers to expand their markets and reach new customers (Azuma, Baillot, Behringer, Feiner, Julier & Macintyre, 2001). The formulation of AR has embedded virtual content into the customer's physical world to conceptualise products and services (Azuma et al., 2001). AR facilitates firms to enhance service experiences and promote value co-creation (Singh, Brady, Arnold & Brown, 2017). Indeed, the users gain augmented product information from the offline and online stores using AR. Javornik (2016) putforth that interactivity, virtuality, locational specificity, mobility and coordination of virtual and physical environments are considered the significant media characteristics of AR.

Mediating Role of Realism of the Experience

With the change in technologies, customers are better informed today and comfortable using self-service technologies for the products and rendering services they expect to purchase (Parise et al., 2016). AR delivers the prospects for innovative in-store experiences and increased commitment to the offline shoppers by providing access to digital content conventionally accessible only by online shoppers (Hilken et al., 2018). Parise et al. (2016) proposed two digital technology stimuli: personalisation and interactivity, that enhance customer experience. Various researchers such as Park, Stoel and Lennon (2008); Parise et al. (2016); Javornik (2016); Hilkenet al. (2017); Yim, Chu and Sauer (2017) have revealed the measures of realism of the experience, namely, flow, immersion, cognitive fit and emotional fit that significantly impact customers' experience and are key indicators of realism of the experience. Hilken et al. (2017) recently highlighted the AR-enabled methods by which customers feel the spatial presence of virtual objects enhancing their experience. Hilken et al. (2018) further suggested fidelity as the measure for the realism of the experience. Fidelity is the loyalty of the customers towards the retailer. Wulf (2019) assessed fidelity with the real-world phenomenon and concluded that it leads to the activation of omnichannel capabilities. An engaging AR experience delivers utilitarian and hedonic value to the customers that enhance their decision-making ability and positively influences their behavioural intentions such as purchase and word-of-mouth (Hilken et al., 2017; Yim et al., 2017; Poushneh & Vasquez-Parraga, 2017).

Consequences

Several articles have discussed the outcomes of channel integration. The consequences of channel integration quality include purchase intention (Herhausen et al., 2015), overall satisfaction (Hammerschmidt, Falk, &Weijters, 2015), and loyalty (Schramm-Klein, Wagner, Steinmann, & Morschett, 2011). Further, channel integration has impacted omnichannel usage intentions (Shen et al., 2018), customer engagement, repurchase intentions, and positive word-of-mouth (Lee et al., 2019). All these outcomes can be grouped under three heads: customers' decision making, behavioural intentions and customers' lifetime value.

Omnichannel integration helps the customers in decision making across their shopping. OCR is an integrated approach where customers use multiple channels and touchpoints and multiple platforms, digital tools and networks, and delivers a seamless response to the customers' experience (Verhoef et al., 2015; Brynjolfsonn et al., 2013). A customer journey passes across various steps that customers go through while purchasing. Customers' feelings, thoughts and behaviours vary at each stage that jointly produces the customer experience (Helkin et al., 2017). The customers' experience at shopping can affect consumer loyalty and satisfaction. When integrated with the digital channel and AR experiences, the physical stores enhance decision-making, thus improving customers' shopping experience (Pantano & Di Pietro, 2012; Helkin et al., 2018). From an omnichannel perspective, when retailers augment in-store experience that promotes store loyalty, they encounter reduced in-store traffic, loss of customers to online shops, and showrooming behaviour (Hilken et al., 2018).

In a broader sense, OCR impacts customers' choices and purchase behaviours (Hickman et al., 2020). The growth of omnichannel retailing has changed customers' habits and shopping behaviour (Kazancoglu & Aydin, 2018). Juaneda-Ayensa et al. (2016) stated that customers' acceptance and intention to use new technologies influence omnichannel customers' behaviour. Consequently, using the latest technology and analysing the customer data to understand their shopping behaviour and personalise their experience is the prerequisite for the retailers to provide a seamless experience. The customers' behavioural intentions, including loyalty indicators, purchase intentions and revisits, are established for OI and channel integration (Limbu, Wolf & Lunsford, 2012). For instance, to build customer loyalty, Hwang, Baloglu and Tanford (2019) remarked that firms must effectively manage marketing strategies to construct a positive relationship with customers satisfy customers' needs. Similarly, touchpoints positivity and reach (Ieva & Ziliani, 2018), brand trust, and attachment (Farasquet et al., 2017) also contribute to customers' loyalty intentions.

On the other hand, Herhausen et al. (2015) evaluated that channel integration enhanced customer perceived service quality, reduced perceived risks, and positively impacted search intention, purchase intention, and willingness to pay. However, Chatterjee and Kumar (2017) and Shen et al. (2018) found that customers' perception and willingness to pay differ in an OC setting and impact purchase intentions. He further explored that satisfied and loyal customers have positive purchase intentions to purchase goods and services through omnichannel retail outlets. Customers consider different aspects of products while making purchase decisions that impact their purchase intentions differently (Lee & Nguyen, 2017). Trust, flow, habit, effort expectancy, performance expectancy, social influence, hedonic motivations, personal innovativeness, and perceived security are indicators of customers' purchase intentions (Mortazavi et al., 2014; Juaneda-Ayensa et al., 2016).

Further, OCI also influences customers' lifetime value. According to Rust, Lemon and Zeithaml (2004), customer lifetime value is the present value of the future cash flows by the customers over their whole relationship with the company. It is documented in the literature that OCR makes the customers experience the brand as it concentrates on interactions that excavate the customer relationship, thus affecting the customer lifetime value and long-term profitability (Bhalla, 2013). In the omnichannel literature, customer equity and brand attitude are two significant indicators of customers' lifetime value (Kumar and Luo, 2006). Wang, Kim, Ko and Liu. (2016) expanded the same and stated that integrated service quality, brand attitude, trust and loyalty lead to customer equity and subsequently impact customers' lifetime value. While considering the behavioural aspect of customers', Hossain et al. (2017) propose three antecedents of Customer equity, i.e. Value equity, Brand equity and Relationship equity, that were not addressed earlier by the researchers in the OCR setting. Firms can enhance customer equity by concentrating on these drivers (Hyun, 2009).

In consumer behaviour research, the brand attitude has emerged as a widely examined construct to have researched upon (Berger & Mitchell, 1989). Brand attitude reflects that the brand-related experiences accumulated by the consumer brand attitude are essential for accepting a retail channel (Kim & Park, 2005). Since OCR focuses on delivering a seamless experience to the customers, brand attitude plays a vital role in shaping their behaviour towards the specific retail channel(Tyrvainen & Karjaluoto, 2019). As a key driver of brand equity, brand attitude also influences the customers' lifetime value (Lemon et al., 2001). Customers having positive attitudes towards a product or brand are more likely to respond quickly and effectively to marketing efforts (Stahl et al., 2003).

RESEARCH GAP AND FUTURE RESEARCH AGENDA

OCR is an important development in the field of marketing as it provides a direction for retailers to operate smoothly, effectively and seamlessly (Verhoef et al., 2015). Being an evolving concept, many gaps are found in the OCR literature (Verhoef et al., 2015; Herhousen et al., 2015; Beck and Rygl, 2015). Specifically, Verhoef et al. (2015) claim that research is meagre to understand OCR and how the evolution of multichannel retailing has led to the development of omnichannel retailing is required to be researched for a better understanding of the concept. The

scholars also remarked that academicians and practitioners need to theorise OCR drivers, consequences and intervening variables. Mishra et al. (2021) have recently expressed the need to explore the omnichannel drivers and barriers for understanding consumer behaviour. Although the existing literature has discussed various drivers in quite a fragmented manner.Further, scholars have identified and provided future research directions to the scholars to explore the role of drivers, namely perceived service quality (Hossain et al. 2017; Zhang et al., 2018, Akter et al., 2018), perceived usefulness (Mosquera et al., 2018; Juaneda-Ayensa et al., 2016), perceived fluency (Shen et al., 2018; Zhou et al., 2017), touchpoints (Baxendale et al., 2015; Ieva & Ziliani., 2018; Dahl et al., 2018), brand love (Frasquet et al., 2017; Kwon, 2019) and AR (Helkin et al., 2018; Brynjolfsson et al., 2013; Lazaris & Vrechopoulos, 2014; Hole et al., 2019).
For example, Baxendale et al. (2015), while conducting an empirical study on touchpoints, pointed out that touchpoints are vital for providing exposure and creating a better OC experience for the customers. In addition, Ieva and Ziliani (2018) segmented customers subject to their frequency of exposure and established a relationship between exposure of touchpoints and loyalty intentions. The scholars put forth future research directions to examine the causal relationship between touchpoints exposure, customer experience and attitudinal and behavioural customer outcomes. They also further suggested developing an integrated model that combines both offline and online touchpoints by considering the role of touchpoints combinations. Additionally, in their future research agenda, Gerea et al. (2021) emphasised building brand experience by integrating multiple touchpoints leading to customer lifetime value. They remarked that the retailers must manage several combinations of touchpoints to build customers' perceptions of a particular retail channel and a particular brand. Further, Herhausen et al. (2015) have established a relationship between perceived service quality and perceived risk of online stores in three customer journey stages: search intention, purchase intention, and willingness to pay at retailer-level and channel-level. They suggested measuring customers' general shopping experience for all the online purchases irrespective of definite retailers and emphasised offline–online channel integration on customers' general shopping experience. Moreover, the literature review emphasised considering customers' service quality perceptions to study channel integration impact on customers' purchase intentions (Akter et al., 2018). In the same way, Frasquet et al. (2017) established positive effects of brand trust and brand attachment on offline and online loyalty. They suggested further research on the impact of brand trust and attachment using multichannel familiarity or preferences in building personal.

Further, AR is considered a significant driver of OCR. However, the literature is relatively thin that examines the linkage between the role of AR in OCR. Many scholars, namely, Brynjolfsson et al. (2013); Lazaris and Vrechopoulos (2014); Hole et al. (2019), have affirmed that the use of AR in retailing can bring a milestone to the retailing industry by shedding the boundaries between traditional and internet retailing channels that enables embedded, embodied and extended customer experiences. Hilken et al. (2018), in this context, suggested building a conceptual framework for leading the development of AR in an omnichannel context. According to Marinova et al. (2017), AR provides a more intuitive and context-sensitive interface by which customers can easily process information and enhance online service experiences. AR is an advanced and smart interface that can improve service quality to have a practical and enjoyable shopping experience (Huang and Liao 2015).

Various other scholars such as Verhoef et al. (2015), Lee et al. (2019), Hickman et al. (2020) etc., have expressed to conduct more research on understanding the OCR. Specifically, Verhoef et al. 2015 suggested future research on omnichannel, i.e. using multiple channels and touchpoints simultaneously to understand customer choice behaviour. In the same vein, Lee et al. (2019) discussed the role of channel service as an antecedent of OI. They put forward the need to incorporate potential variables such as customers' familiarity to analyse channel integration quality impact on customer engagement. While Hickman et al. (2020), in their research on OC experience, found perceived value, brand familiarity, technology readiness and customisation as significant drivers. They highlighted future research linking customer journey with omnichannel, particularly changes in customers' perceptions and behaviour all through their purchase journey. Further, they also suggested conceptualising the OC framework based on the retailers' objectives and customers' overall perceptions.

Lastly, based on the consequences assimilated from diverse studies, we grouped the outcomes under customers' decision making, behavioural intentions and customers' lifetime value heads.
Many scholars, namely, Herhousen et al. (2015); Peltola, Vainio and Nieminen (2015); Homburg et al. (2016); Helkin et al. (2018); Javornik et al. (2016); Huang and Liao (2015), have provided future research direction regarding the customers' decision making. Pantano and Di Pietro (2012) claimed that technology integration improves the customers' experience, which gives them satisfaction and thus helps them in the decision-making process. In this regard, Herhousen et al. (2015); Peltola, Vainio and Nieminen (2015); Homburg et al. (2016) have suggested focusing on the unification of the customers' experience through touchpoints for an effective and successful omnichannel retailing strategy in future studies. Likewise, Huang and Liao (2015), Javornik et al. (2016), Helkin et al. (2018) asserted that integrating physical stores with the digital channel and AR experiences enhance decision-making and positive behavioural intentions, thus improving customers' shopping experience. In addition, Javornik et al. (2016) proposed to measure the role of immersion in building AR customer experience without disrupting the physical and virtual world.

The extant literature further suggests researchers include behavioural intentions in their respective studies (Limbu, Wolf & Lunsford, 2012; Tanford, 2016). Akter et al. (2018) mention the generalisation of the impact of integration quality on behavioural outcomes of customers. Specifically, Ieva and Ziliani (2018) suggested that touchpoints positivity and reach as well as brand trust and attachment (Frasquet et al., 2017) can lead to loyalty intentions among the customers. They further recommended examining the causal relationship between touchpoints exposure, customer experience and attitudinal and behavioural customer outcomes such as loyalty intentions in future studies. Additionally, Mosquera et al. (2018) remarked that purchase intention is significant in OI. Likewise, Kim and Lennon (2013) claimed that emotion and perceived risk have a significant effect on purchase intentions.

Similarly, scholars like Wang et al. (2016), Hossain et al. (2017, 2020), and Yu and Yuan (2019) suggested future research directions relating to customers' lifetime value in context to OI. In this regard, Wang et al. (2016) have pointed out the relationship between integrated service quality and customer equity. Likewise, Hossain et al. (2017, 2020) suggested that the forthcoming researchers integrate customer data accumulated across various touchpoints and research on different constructs such as loyalty, customer lifetime value, and others as the outcome of integration quality. Even recently, Yu and Yuan (2019) established the impact of brand attachment on brand equity in general and relationship equity in particular. Further, they also confirmed how brand trust significantly impacts value equity vis-a-vis brand equity. They additionally provided research direction to include different brand experience dimensions to analyse its impact on customer equity.

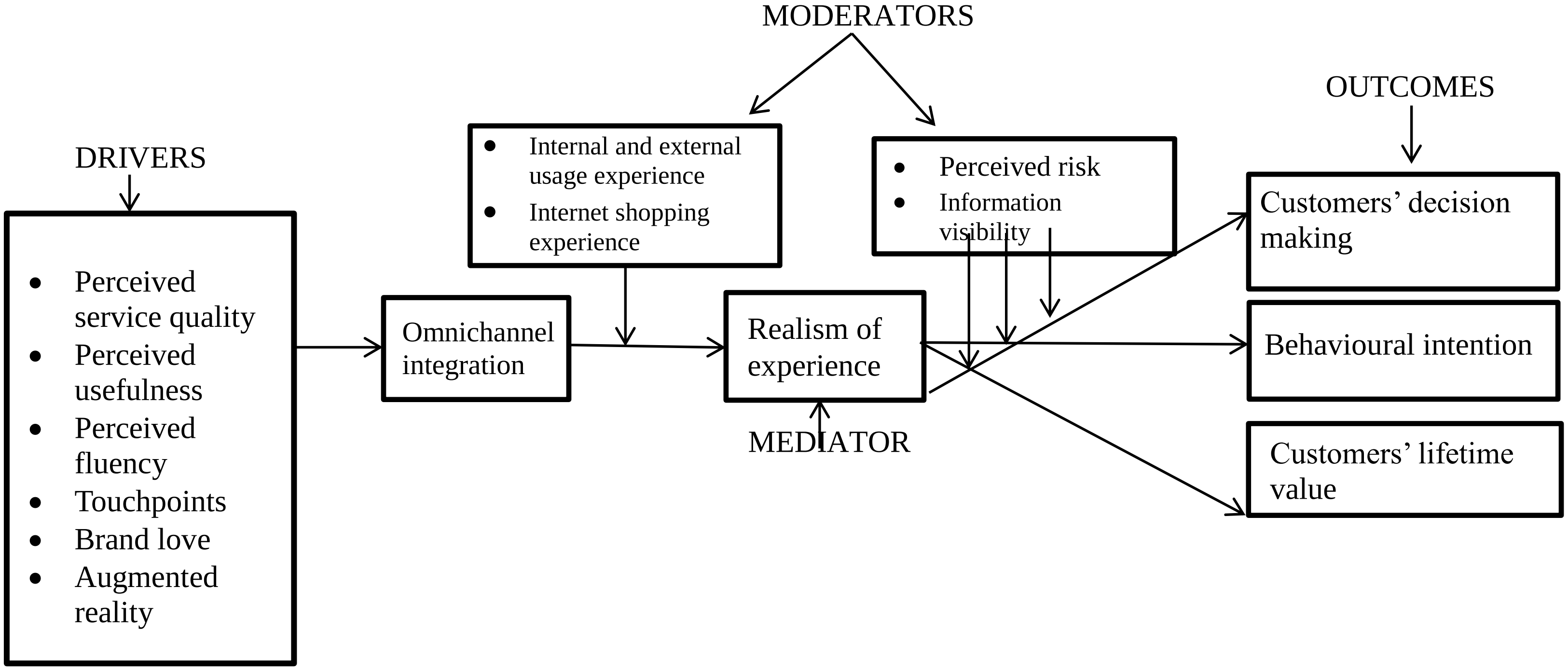
Scholars have remarked that customer engagement across channels is essential in OI. Lee et al. (2019) and Li et al. (2018) have examined customer retention and customer engagement as the consequence of OI, which needs to be validated across different settings. The literature review also suggests understanding the role of moderating factors in the OI framework. For instance, Li et al. (2018) also asserted the need to explore the moderating roles of retailer image and attractiveness between OI and customer retention, which has yet not been confirmed. Even Ieva and Ziliani (2018) proposed to test the moderating effect of generation on touchpoints. Shen et al. (2018) suggested examining the different moderating roles of internal and external omnichannel usage experience on the relationship between fluency and usage. Hossain et al. (2020) emphasized modeling integration quality utilising different moderators very recently. Berman and Thelen (2018) suggested that the researchers specified the proper role of stores in the OC environment in future studies and stressed studying the alternative ways organisations should find for the most effective and efficient OC marketing.

Further, some studies also offer a research guide to the researchers for generating the omnichannel integration framework. For instance, Larke et al. (2018) emphasised that executive commitment and structural resistance across supply chains and the capacity limits in OC retailing should be highlighted in further research. Researchers like Piotriwicz and Cuthbertson (2014); Hubner et al. (2016); Diaz, Martin-Consuegra and Esteban (2017); Shen et al. (2018); Hossain et al. (2020) asserted to research different geographic locations, longitudinal studies and mixed-method research for building causal relationships and generalisability of the data. Since most of the earlier studies (Juaneda-Ayensa et al., 2016; Valentini et al., 2020) are from clothing, groceries and electronics sectors, Hossain et al. (2020) emphasised testing the conceptual model of omnichannel integration in some other industries such as healthcare, hospitality, and tourism.

Based on the discussion as mentioned earlier, a research framework is designed to understand comprehensive omnichannel integration from customers' perspectives (Figure 1). The research framework proposes various drivers of omnichannel integration: perceived service quality, usefulness, fluency, touchpoint effectiveness, augmented reality, and brand love that influences the realism of the experience, customers' decision-making, behavioural intentions, and customers' lifetime value. Further, it assumes that the presence of various moderators, namely internal and external usage experience, internet shopping experience, information visibility, and perceived risk, will enhance the impact of OI on multiple outcomes.

However, our literature review found that no study has applied a specific theoretical framework in omnichannel retailing. Though, only a few studies have placed an academic emphasis on explaining different aspects of omnichannel retailing. The researchers must fully ingrain with the theories like media richness theory, commitment trust theory, anticipated utility theory and UTAUT2 model to have a more profound knowledge of the conceptual framework of omnichannel integration. According to Daft et al. (1987), media richness theory (MRT) suggested that the amount of information dissemination by media can enhance the level of understanding of the receiver. The MRT relies on the principle to identify the extent to which media use can improve an individual's work performance in implementing organisational tasks (Daft &Lengel, 1984).

Figure 1: Conceptual framework of Omnichannel Integration



Similarly, Morgan and Hunt (1994) pioneered the commitment-trust theory (CTT) that explains that trust and relationship commitment are fundamental components in relationship development between customers and retailers. On the other hand, Anticipated utility theory (AUT), as proposed by Quiggin (1982), considers the decision-making journey of the customers as a revolutionary development in which customers need to decide against accessible channels or touchpoints by considering their perceived marginal utility. Similarly, the UTAUT 2 model, an extension of TRA, TPB, TAM, IDT and UTAUT, developed by Venkatesh et al. (2012), is considered the best theory regarding technology adoption in the omnichannel context. Studying these theories can help the researchers understand this study's conceptual model.

DISCUSSION AND IMPLICATIONS

The study on OC integration is relevant because of the proliferation of new technologies that lead to the emergence of the OC marketing concept. OC marketing is a relatively novel phenomenon and is essential in the literature as a helping guide for future researchers and the business world. This study has academic as well as managerial implications. This paper has addressed different theories that highlight the role of various factors: the role of technology adoption, commitment-trust, and information dissemination by each touchpoint and utility associated with touchpoints to develop a comprehensive conceptual framework, thus, contributing to the academic literature for initiating an OCR strategy that enhances the customers' experience. This study has identified multiple drivers of OI, i.e. perceived service quality, usefulness, fluency, touchpoint effectiveness, augmented reality, and brand love proposed to elevate the customers' shopping experience. Further, it highlights the impact of OI on augmenting the customers' experience and how the enhanced customers' experience can impact the customers' satisfaction, convenience, behavioural intentions, and equity. This paper also provides managerial implications as the retailers have the key to engaging customers by understanding the variables that affect their behavioural intentions. Its implementation can l assist retailers looking to switch from multichannel to adopt an omnichannel marketing strategy. Further, retailers who transform into omnichannel can create economies of scale in a few periods. Developing OC capabilities where the customers can use the appropriate channel depending on the product they are purchasing, and their needs can help the retailers to create an edge over competitors. Since, this study also provides implications for the customers. It highlights the characteristics of OCR, which enriches the customers' knowledge about the technology-intensive marketing system and subsequently enhances the customers' experience. A new interactive technology, i.e. AR, is highlighted to provide a real-time shopping experience in the study. As firms that are maneuvering to exercise the transitions through online and mobile channels, AR technologies are on the front foot to ensure a more unified and satisfied customers' journey across all retail channels. It is easy for the customers to navigate through the channels, and they can easily find their product through an omnichannel strategy.

CONCLUSION

The study primarily focuses on exploring drivers, intervening variables, and outcomes of OI and underpinning the conceptual framework of OI, based on the extant literature review for empirical investigation from customers' perspectives. Thus, future researchers should empirically test various drivers, namely perceived service quality, perceived usefulness, perceived fluency, touchpoint effectiveness, augmented reality and brand love, that impact OI. Moreover, future researchers should test the role of intervening variables (i.e. realism of experience, internal and external usage experience, internet shopping experience, information visibility, and perceived risk) to understand OI and its consequences relating to OI. In addition to the theories mentioned in the paper, future researchers can explore other theories to understand the OC integration framework better. Further, the available literature on the OI framework can be tested in sectors like banking, retailing (fashion apparel, grocery stores, and electronics), social media, luxury brands, hospitality and tourism.

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Appendix:

Table 1: Summary of articles included in the review

S.No.	Journals listed in ABDC ranking list 2019	No. of articles	Select Papers
26.	Journal of Retailing A*	5	Baxendale, Macdonald & Wilson (2015),Cao and Li (2015), Herhousen et al. (2015), Verhoef, Kannan, & Inman (2015), Valentini et al. (2020)
27.	Decision Support Systems A*	2	Shen, Li, Sun, & Wang (2018), Li, Liu, Lim, Goh, Yang & Lee (2018)
28.	Journal of Marketing A*	2	Avery et al. (2012), Lemon &Verhoef (2016)
29.	Journal of the Academy of Marketing Science A*	2	Singh, Brady, Arnold & Brown (2017), Hilken et al. (2017)
30.	International Journal of Hospitality Management A*	1	Hwang, Baloglu&Tanford (2019)
31.	Industrial Marketing Management A*	1	Hossain et al. (2020)
32.	International Journal of Consumer Studies A	1	Mishra, Singh and Koles (2021)
33.	Journal of Retailing and Consumer Services A	5	Poncin&Mimoun (2014), Beck and Rygl (2015), Javornik (2016), Lee & Nguyen (2017), Poushneh& Vasquez-Parraga (2017)
34.	Harvard Business Review A	1	Rigby (2011)
35.	International Journal of Retail & Distribution Management. A	2	Farasquet, Descals and Ruiz-Molina (2017), Berman and Thelen (2018)
36.	International Journal of Physical Distribution & Logistics Management A	1	Larke, Kilgour& O'Connor (2018)

37.	International Journal of Electronic Commerce A	1	Piotrowicz&Cuthbertson (2014)
38.	Journal of Advertising Research A	1	Wind & Hays (2016)
39.	Journal of Business Research A	1	Wang, Kim, Ko and Liu (2016)
40.	Internet Research A	1	Huang & Hsu-Liu (2014)
41.	Marketing Letters A	1	Neslin et al. (2014)
42.	Cornell Hospitality Quarterly A	1	Tanford (2016)
43.	The TQM Journal B	1	Ieva & Ziliani (2018)
44.	Journal of Research in Interactive Marketing B	4	Limbu, Wolf & Lunsford (2012), Mortazavi (2014), Hilken et al. (2018), Hinson, Boateng, Renner & Kosiba (2019)
45.	International Journal of Human Computer Interaction B	1	Shin (2016)
46.	Business Horizons B	1	Parise et al. (2016)
47.	International Review of Retail, Distribution and Consumer Research B	1	Hickman et al. (2020)
48.	Electronic Commerce Research and Applications C	1	Zhang, Ren, Wang & He (2018)
49.	Journal of Digital & Social Media Marketing C	1	Bhalla (2013)
50.	Others (not listed in ABDC)	6	Seck& Philippe (2013), Belu & Marinoiu (2014), McCormick et al. (2014), Juaneda-Ayensa et al. (2016), Hossain et al. (2017), Gerea et al. (2021)
	Total	**45**	

Table 2: Evolution of Omnichannel Retailing (Select Papers)

S.no.	Authors/Year/Journal/ Google Scholar Citations as of 15th February 2022/ Ranking as per ABDC list(2019)	Context/ Nature of Study	Challenges	Objective	Findings
1	Verhoef, Neslin & Vroomen (2007) *International Journal of Research in Marketing* Cited by 1217 A*	Multichannel customer management	The firm may perhaps lose the customer in the course of making choices among shopping channels.	To investigate customers' shopping choices between the available channels.	Findings conclude that service and privacy are two common purchase attributes for Internet-store research shopping. Service improvement and reduced privacy risk impact channel choice among the customers.
2	Rigby (2011) *Harvard Business Review* Cited by 1006 A	Omnichannel retailing	Mobilising firms from one channel to another and adopting new technology is a great challenge for the firms.	To provide a guide to the future of shopping to the retailers.	To be successful, the retailers must follow omnichannel strategies such as Desktop videoconferencing, mobile applications, social networks, collaborative groupware, shared knowledge bases, instant messaging, and crowdsourcing.
3	Belu & Marinoiu (2014) *The Romanian Economic Journal* Cited by 15 Not in ABDC	Multichannel and omnichannel retailing	The development of online channels primarily impacts traditional physical stores.	To investigate different distribution channels models adopted by retailers in the Romanian retail market, focusing on the omnichannel strategy.	The retailers have adopted new technologies and have transitioned from offline to online channels that enable the customers to interact with the retailer seamlessly.
4	McCormick et al. (2014) *Textile Progress* Cited by 134 Not in ABDC	Multichannel and omnichannel retailing (Fashion retailing)	How the technologies will combine to deliver a seamless experience to customers.	To investigate the factors that threaten and drive growth in the fashion retail market and analyse the impact of omnichannel retailing on fashion retail.	The surge of ICT has emphasised the adoption of online retail in the fashion industry, enabling retailers to communicate with buyers across the globe instantaneously.
5	Verhoef, Kannan, & Inman (2015) *Journal of Retailing* Cited by 2223 A*	Multichannel and omnichannel retailing	The changing marketing landscape is posing a threat to retailers.	To discuss the development from multichannel retailing to omnichannel retailing.	Put forward a new research agenda in the form of "calls for further research" in omnichannel and customer experience across channels and the customer's journey in different retail mixes.
6	Beck & Rygl (2015) *Journal of Retailing and Consumer Services*	Multichannel and omnichannel retailing	Key challenges include data integration, organisational structure, channel evaluation and coordination,	To propose a categorisation of multi, cross and omnichannel retailing through a literature review.	Taxonomy on multiple channels retailing classifies whether channel interaction can be triggered by the

	Cited by 675 A		consumer analytics, and channel allocation.		customer or is controlled by the retailer; and how many and what channels are considered.
7	Cao & Li (2015) *Journal of Retailing* Cited by 486 A*	Cross-channel integration	Any changes or efforts to move consumers from one channel to another create the risk of disappointing these customers.	To propose a conceptual framework to describe whether and under what firm-level conditions cross-channel integration impacts firm sales growth.	Cross-channel integration excites sales growth, but firms negative online experience and physical store presence weaken this impact.
8	Shen, Li, Sun, & Wang (2018) *Decision Support Systems* Cited by 185 A*	Omnichannel retailing	Attracting enough omnishoppers is crucial to the success of an omnichannel strategy	Using Wixom & Todd model, understand how channel integration quality and perceived fluency affect omnichannel service usage.	Findings conclude that a fluent cross-channel experience in omnichannel service enables customers to further access and explore the omnichannel services
9	Berman & Thelen (2018) *International Journal of Retail and Distribution Management.* Cited by 77 A	Multichannel and omnichannel retailing	Internal technological challenges, organisation silos and poor operation execution are the major barriers to the successful implementation of omnichannel marketing	To describe the advantages of omnichannel marketing and explain the ways by which retailers can best transition from multichannel marketing to omnichannel marketing.	Identifies four stages between a pure multichannel and a pure omnichannel marketing strategy that enables retailers to identify their current operating stage, view gaps between their current and desired level of channel integration and develop and implement the necessary strategic initiatives to move a higher level.
10	Zhang, Ren, Wang & He, (2018) *Electronic Commerce Research and Applications* Cited by 165 C	Channel integration omnichannel environment	Uncertainty avoidance behaviour among customers is a major challenge.	To investigate consumer responses in the omnichannel retail environment, focusing on consumer empowerment.	In an omnichannel retailing environment, consumers having more trust and satisfaction, perceive more empowerment and thus, have full shopping intention to benefit the retailers.
11	Li, Liu, Lim, Goh, Yang & Lee, (2018) *Decision Support Systems* Cited by 142 A*	Cross-channel integration	Leveraging on CCI to assimilate and coordinate multiple online and offline channels for engaging and retaining customers is an elusive challenge for retailers.	Grounded on the Push-Pull-Mooring (PPM) framework to examine the pushing, pulling, and mooring roles in shaping customers' reaction to CCI in omnichannel retailing.	Based on the PPM framework, CCI, through service investments can aid retailers in retaining customers by generating trust as well as cultivating the customers' dedication- and constraint-based motivations.

12	Herhousen et.al. (2015) *Journal of Retailing* Cited by 635 A*	Channel Integration	Designing channels to grow or maintain a retailer's loyal research shopper base is a major challenge.	To test whether and how online and offline integration (OI) leads to a competitive advantage for retailers.	Customers value an integrated Internet store, and that OI leads to more favourable behaviour toward a retailer and its Internet store, leading to a competitive advantage for retailers.

BIBLIOMETRIC ANALYSIS OF FLIPPED CLASSROOM IN BUSINESS, MANAGEMENT AND ACCOUNTING EDUCATION

Soma Garg[1]* Arun Julka[2] Samyak Garg[3]

This study aims to comprehensively examine the flipped classroom research by conducting a bibliometric analysis of publications in Business, Management and Accounting education between 1994 and 2022 derived from the Scopus database. The study aims to highlight collaborations between authors, and countries in the field, to identify the most influential authors, countries, and reference papers; to know the research topics on which researchers have been working in recent years. The findings showed that USA, Indonesia, China, and Canada are the most productive countries on flipped classroom research. Lo C.K. and Hew K.F are the most influential authors whose papers have been cited most. International Journal of Management Education, Proceedings of The International Conference on Industrial Engineering and Operations Management are the most represented journals. The analysis shows that the collaboration between authors and countries working on flipped classroom is very low, though awareness and research on flip classroom is gradually increasing. In the current scenario where Government of India has implemented National Education policy (NEP 2020) and as a consequence Universities across India are introducing new curricula –'having lots of skilled based courses and elective papers, starting with University of Delhi this year, it is imperative that researchers make use of this analysis of the flipped classroom research field which might be a sought after pedagogy in coming decade.

Keyword: *Bibliometric analysis, Flipped classroom, Blended learning, Online learning, Pedagogy*

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INTRODUCTION

There has been a phenomenal increase in university student numbers worldwide. (UNESCO 2017). Due to differences in motivation and diversity in learning styles university tutors have to face challenges to provide education that leads to optimal performance for each individual student (Abeysekera and Dawson 2015; Cruzado and Román 2015). Considering these challenges, educators have been questioning the teaching pedagogy and have been asking whether traditional lecturing is still preferable and whether it achieves the desired results(Goedhart et al., 2019). In response to these challenges, new and different teaching methods have been proposed, such as flipped classroom.

A flipped classroom is a specific type of teaching pedagogy which is quite different from traditional teaching methodology, it requires students to read course materials or view pre-recorded multimedia lectures in out-of-class time, leaving class time to be utilised to provide them with practice, guidance, and feedback to resolve any problems they may have. (Chen et al., 2015). The flipped classroom is a pedagogical method, which combines teacher-focused instruction with learner-focused learning. Lage and his colleagues define it as what “has traditionally taken place inside the classroom now takes place outside the classroom and vice versa”(Lage et al., 2000) . The class time saved can be used for higher-level learning and individual/team-based problem-solving applications. Flipped classroom may improve students' cognitive holding power, it supports diverse group of students in the learning (Goedhart et al., 2019) and equity among the students can also be enhanced(Ahmed & Indurkhya, 2020).
This paper examines the status quo of flipped learning applications in Business, Management and Accounting education to ascertain the key research streams and trends in recent time (from 1994 -2022). Though there are a number of review techniques available which include meta-analysis, the structured review, a theoretical review, systematic review, hybrid-future research and framework based, this study applies the bibliometric approach to objectively visualize and map the flipped learning research in Business, Management and Accounting education.

Pritchard (1969) first introduced bibliometrics, which is concerned with statistical analysis of bibliographic data (Broadus.N., 1987) for determining the intellectual structure of any scientific field (Hota et al., 2019). Bibliometric analysis enables and empowers scholars to gain a one-stop over- view, identify knowledge gaps, derive novel ideas for investigation, and position their intended contributions to the field.(Donthu et al., 2021).The current study uses bibliometric methodology for three reasons. First, bibliometric method can process large quantities of data. Secondly, it uses quantitative rather than qualitative techniques, which helps to provide an objective interpretation of the research. Thirdly its findings is a widely recognized field of study with applications in many disciplines(Ellegaard & Wallin, 2015; Hew & Lo, 2018) including management(Zupic & Čater, 2015) .

RESEARCH METHODOLOGY

Our study adopted a bibliometric analysis on flipped learning in Business, Management and Accounting education to analyse relevant scientific publications published between 1994 and 2022, to uncover the main research themes and influential entities of the field. The database drawn upon in this analysis is the Scopus data base. This source has become the most prominent platform for bibliometric analyses as it included the most impactful publications
required for science mapping and identification of future research.

When investigating teaching methodology in the literature, we can notice a considerable amount of research conducted by the scientific community on teaching pedagogy. By examining the literature closely, we notice that although there are a significant number of biometric studies on “e-learning,” or “mobile learning,” or “online learning,” or “distance learning,” none is conducted on “flipped classrooms” in recent years. This paper aims to fill this research gap. The analysis focuses on Bibliometric mapping to examine the trends in flipped classrooms. The analysis is to be done according to variables such as citations, publications, and journals. local impact factor, authors and countries. Analysis of keywords indexed in the articles would also be undertaken to identify research groups and to understand the research themes associated with flipped classroom through thematic map .

RESEARCH QUESTIONS

This research will provide a useful guideline for scholars and practitioners who are interested in flipped classrooms and seek cooperation opportunities with other scholars and research institutions by systematically collecting, characterizing, and analysing research papers related to flipped classroom. Moreover, the predictions based on the bibliometric analysis can also provide ideas for future research. To achieve this objective, the following research questions (RQ) are worth answering:

RQ1 How has the focus of the flipped learning literature in Business Management and Accounting education evolved over time since 1994?

RQ2 Which are the most influential publications and journals i.e., which journals have published the most articles about flipped classroom in 1994-2022

RQ3 Which are the most influential and impactful authors?

RQ4 What are the country statistics from the authors who published flipped classroom articles?

RQ5 What is keywords distribution and trend?

RQ6 What is the author collaboration/ co authorship on flipped classroom publications?

RQ7 What are the institutional collaborations of the authors of the flipped classroom publications?

RQ8 What are the potentials for future research development of thematic areas within the field of flipped classroom.

METHODOLOGY

The review was carried out in relation to different components to encompass the comprehensive mapping of flipped learning in Business, Management, and Accounting education. The research publications have been analysed in three stages: searching (Stage1), filtering (Stage 2) and Screening (Stage 3)
In the first stage data has been Searched using the searching formula:

(“Flipped” OR “Inverted”) AND (“learning” OR “Classroom” OR “Teaching” OR “Instruction”) AND (“Education” OR “Social Sciences”). In the search criteria, “All years (1994-2022)” and

“All documents” were enabled so that no relevant documents were excluded from the search results. After stage 1 we got 4492 documents.

In stage 2 filtering was done thrice. First filtering was done to refined the search to articles, conference papers, reviews, book chapters, conference reviews, and books. we got 4417 documents. After putting second filter to obtain documents for “English language only” 4213 documents were obtained. The last filter was for Subject Area (Business, Management, and Accounting), we obtained 148 documents.
After the stage 3 of Screening for Title and abstract 100 documents were obtained.

After searching (Stage1), filtering (Stage 2) and Screening (Stage 3) this study ultimately selected 100 documents published between year 1994 and 2022 from the entire Scopus database. This whole process is outlined in table 1.

Table 1: Method of Analysis

Scopus Core Collection	
Stage 1	Searching using the searching formula: (“Flipped” OR “Inverted”) AND (“learning” OR “Classroom” OR “Teaching” OR “Instruction”) AND (“Education” OR “Social Sciences”) [4] Result =4492 documents
Stage 2	Filtering (1): Refining to articles, conference papers, reviews, book chapters, conference reviews, and books Result = 4417 documents. Filtering (2): English Language only Result = 4213 documents. Filtering (3): Subject Area (Business, Management, and Accounting) Result= 148 documents
Stage 3	Screening: Title and abstract screening Result= 100 documents

The repository of these 100 articles were produced in CSV format for the bibliometric analysis. To conduct bibliometric analysis and visualize the results of bibliometric analysis, VOSviewer application as well as Biblioshiny software package and the bibliometric package in R was employed on these 100 documents to visualize and map the flipped learning research in Business, Management and Accounting education.

DATA ANALYSIS AND RESULTS

Main Information about Data

In this section a deeper insight is provided into the documents under review, that is, how they quantitatively and qualitatively contribute to the domain of flipped learning. 100 documents selected for analysis were authored by 250 authors. These documents are comprised of 97 journal articles, 5 review articles, and 4 early access journal articles. These documents, published between 1994 and 2022, were located in 66 sources. A total of 4214 references of these documents were counted as of the end of July 2022 within the Scopus Database. The average citation per document is 9.08. Furthermore, there exists 21 single authored documents and on the

[4] In the search criteria, “All years (1994-2022)” and “All documents” were enabled so that no relevant documents were excluded from the search results.

average 2.59 co-authors have contributed per document (Figure 1)

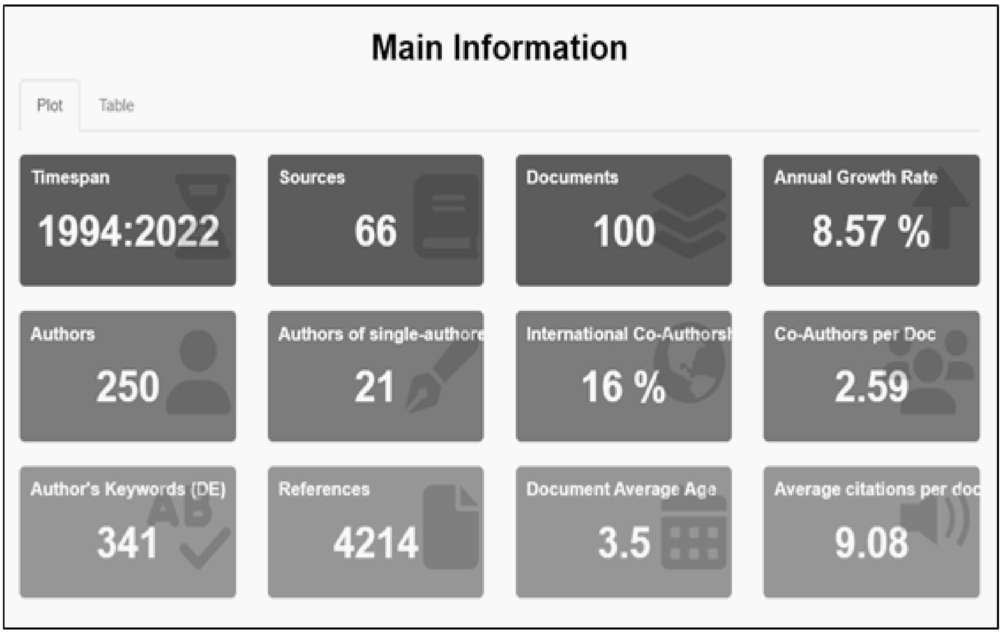

Figure 1: Main Information about the Data

Type of Publications

We studied the types of papers published on flipped Classrooms between 1994 and 2022. We notice that 25% are "Proceedings Paper", 65% of the publications are "Articles", 5% are "Book Chapters" and 5% of the publications are "Reviews". (Figure 2)

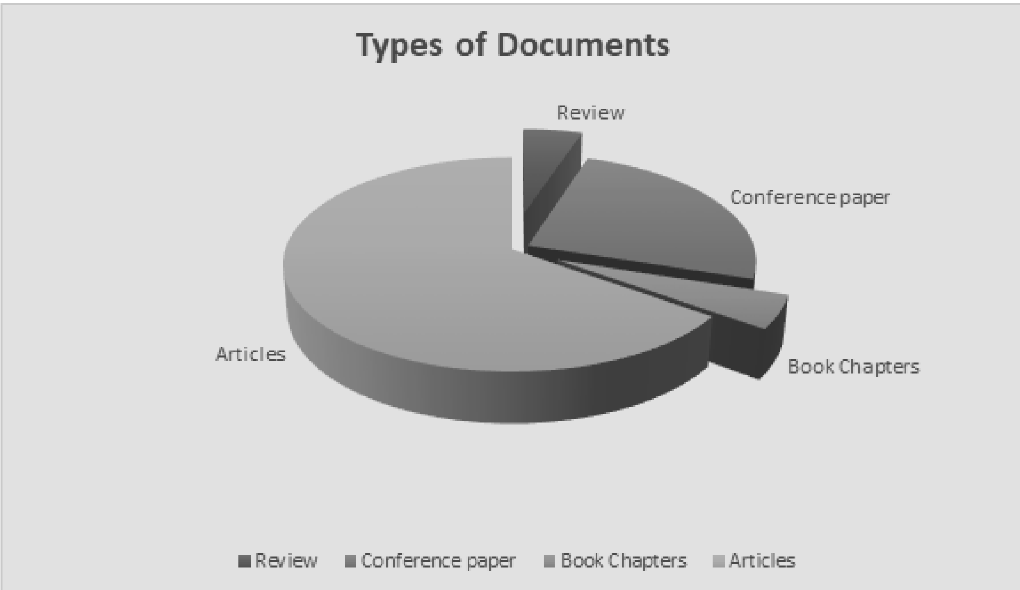

Figure 2: Types of Documents

Publication Trend-based analysis

We notice that only one article was published on flipped classroom in Business, Management, and accounting research in 1994 and no article was published after that till 2011. Only a few researches were done from 2012 to 2014 and in 2015 only 6 articles were published after which they increased. The research on the flipped classroom has gradually increased after 2015, ranging from 6 (2015) to 17 (2020) and then declined in 2021 and 2022. (Figure 3)

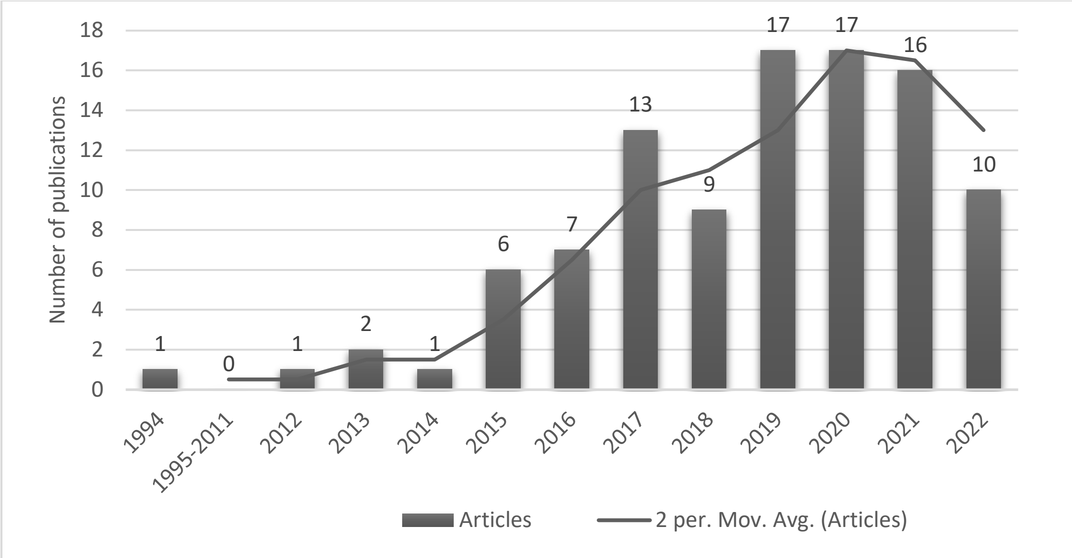

Figure 3: The number of flipped classroom publications published each year between 1994 and 2022.

Citation

The Mean Total Citation per Article is highest in 2014 (70) and minimum in 2022 (1.2). Average Total Citation per Year is highest in 2014 (8.75) (Table 2) and (Figure 4)

Table 2: Total Citation per Article and Mean Citation per annum

Year	N	MeanTCperArt	MeanTCperYear	CitableYears
2022	10	1.2	-	0
2021	16	3.13	3.13	1
2020	17	4.24	2.12	2
2019	17	4.29	1.43	3
2018	9	10.67	2.67	4
2017	13	25.92	5.18	5
2016	7	3.14	0.52	6
2015	6	13.33	1.9	7
2014	1	70	8.75	8
2013	2	13.5	1.5	9
2012	1	60	6	10
1995 -2011	0	0	0	0
1994	1	9	0.32	28

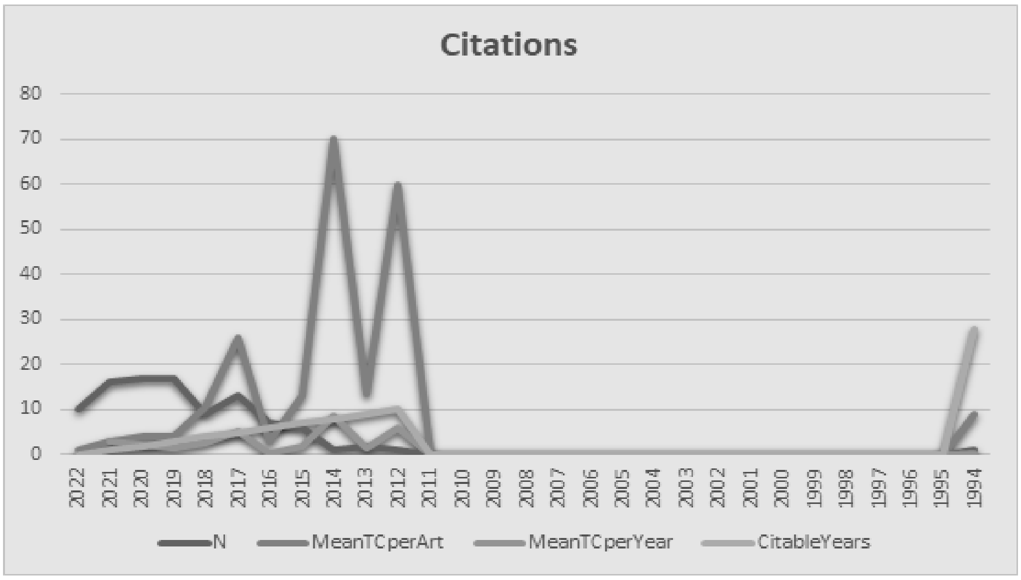

Figure 4: Total Citation per Article and Mean Citation per annum

Journal based analysis

Table 3 shows list of the journal publishing the most articles on flipped classroom. The top ranking was occupied by, International Journal of Management Education a having 7 articles; Second sequence was occupied by Proceedings of The International Conference on Industrial Engineering and Operations Management which published 5 articles; The third place was occupied by Education and Training, Research and Practice in Technology Enhanced Learning, And TEM Journal all of which published 4 articles each. Subsequent journals published 3 and 2 articles.

Table 3: Most Relevant Sources (journals having only one article is not included in the list)

Sources	**Number of Articles**
INTERNATIONAL JOURNAL OF MANAGEMENT EDUCATION	7
PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON INDUSTRIAL ENGINEERING AND OPERATIONS MANAGEMENT	5
EDUCATION AND TRAINING	4
RESEARCH AND PRACTICE IN TECHNOLOGY ENHANCED LEARNING	4
TEM JOURNAL	4
CONTEMPORARY EDUCATIONAL TECHNOLOGY	3
PROCEEDINGS - 2021 INTERNATIONAL CONFERENCE ON EDUCATION, INFORMATION MANAGEMENT AND SERVICE SCIENCE, EIMSS 2021	3
2016 IEEE CONFERENCE ON E-LEARNING, E-MANAGEMENT AND E-SERVICES, IC3E 2016	2
ACADEMY OF MANAGEMENT LEARNING AND EDUCATION	2
ANNUAL CONFERENCE ON INNOVATION AND TECHNOLOGY IN COMPUTER SCIENCE EDUCATION, ITICSE	2
INTERNATIONAL JOURNAL OF EDUCATIONAL MANAGEMENT	2
INTERNATIONAL JOURNAL OF INNOVATION AND LEARNING	2
INTERNATIONAL JOURNAL OF RECENT TECHNOLOGY AND ENGINEERING	2

INTERNATIONAL JOURNAL OF SCIENTIFIC AND TECHNOLOGY RESEARCH	2
JOURNAL OF CIVIL ENGINEERING EDUCATION	2
JOURNAL OF CLEANER PRODUCTION	2
KNOWLEDGE MANAGEMENT AND E-LEARNING	2
PROCEEDINGS OF 2019 INTERNATIONAL CONFERENCE ON INFORMATION MANAGEMENT AND TECHNOLOGY, ICIMTECH 2019	2

Top 10 Sources of Local Impact

Local Impact with respect to h_index, g_index and m-index is highest for International Journal of Management Education (h index:4 and g index:7).H index and g index of Research And Practice In Technology Enhanced Learning is 4 each and that of Education And Training is 3 and 4 respectively (Table 4)

Table 4: Top 10 Sources of Local Impact

Element	h_index	g_index	m_index	TC	NP
INTERNATIONAL JOURNAL OF MANAGEMENT EDUCATION	4	7	1	74	7
RESEARCH AND PRACTICE IN TECHNOLOGY ENHANCED LEARNING	4	4	0.667	229	4
EDUCATION AND TRAINING	3	4	0.375	48	4
ACADEMY OF MANAGEMENT LEARNING AND EDUCATION	2	2	0.2	39	2
CONTEMPORARY EDUCATIONAL TECHNOLOGY	2	2	0.667	8	2
INTERNATIONAL JOURNAL OF EDUCATIONAL MANAGEMENT	2	2	0.5	12	2
INTERNATIONAL JOURNAL OF INNOVATION AND LEARNING	2	2	0.25	4	2
INTERNATIONAL JOURNAL OF RECENT TECHNOLOGY AND ENGINEERING	2	2	0.5	4	2
JOURNAL OF CIVIL ENGINEERING EDUCATION	2	2	0.667	16	2
JOURNAL OF CLEANER PRODUCTION	2	2	0.4	27	2

Top 20 Most Cited Articles and authors

Table 5 shows the most cited articles on the topic of flipped classroom. Most citations were obtained by the article titled "A critical review of flipped classroom challenges in K-12 education: possible solutions and recommendations for future research" written jointly by Lo C.K. and Hew K.F. which was published in 2017 with 188 citations. The second place was grabbed by article entitled "What Might Online Delivery Teach Us About Blended Management Education? Prior Perspectives and Future Directions" written by Arbaugh J.B. with 70 citations. The third and fourth sequence showed a high number of citations by being above the number 50 and below the number 70. Meanwhile, the fifth to twentieth also showed a citations that was high enough by being above the number 10. Figure 5 also shows the authors having most citations.

Table 5 Papers and their authors with most significant impact

No.	Author	Title	Year	Number of Citations	Journal Name
1	Lo C.K., Hew K.F.	A critical review of flipped classroom challenges in K-12 education: possible solutions and recommendations for future research	2017	188	Research and Practice in Technology Enhanced Learning
2	Arbaugh J.B.	What Might Online Delivery Teach Us About Blended Management Education? Prior Perspectives and Future Directions	2014	70	Journal of Management Education
3	Hahn D., Minola T., Van Gils A., Huybrechts J.	Entrepreneurial education and learning at universities: exploring multilevel contingencies	2017	60	Entrepreneurship and Regional Development
4	Laviolette E.M., Lefebvre M.R., Brunel O.	The impact of story bound entrepreneurial role models on self-efficacy and entrepreneurial intention	2012	60	International Journal of Entrepreneurial Behaviour and Research
5	Hsu C.H.C.	Tourism education on and beyond the horizon	2018	46	Tourism Management Perspectives
6	Nederveld A., Berge Z.L.	Flipped learning in the workplace	2015	41	Journal of Workplace Learning
7	Balan P., Clark M., Restall G.	Preparing students for flipped or team-based learning methods	2015	31	Education and Training
8	Garnjost P., Lawter L.	Undergraduates' satisfaction and perceptions of learning outcomes across teacher- and learner-focused pedagogies	2019	28	International Journal of Management Education
9	Magni M., Paolino C., Cappetta R., Proserpio L.	Diving too deep: How cognitive absorption and group learning behavior affect individual learning	2013	26	Academy of Management Learning and Education
10	Wang T.	Overcoming barriers to 'flip': building teacher's capacity for the adoption of flipped classroom in Hong Kong secondary schools	2017	25	Research and Practice in Technology Enhanced Learning
11	Foster G., Stagl S.	Design, implementation, and evaluation of an inverted (flipped) classroom model economics for sustainable education course	2018	22	Journal of Cleaner Production
12	Martínez-Jiménez R., Ruiz-Jiménez M.C.	Improving students' satisfaction and learning performance using flipped classroom	2020	19	International Journal of Management Education
13	Peschl H., Deng C., Larson N.	Entrepreneurial thinking: A signature pedagogy for an uncertain 21st century	2021	16	International Journal of Management Education
14	Morosan C., Dawson M., Whalen E.A.	Using Active Learning Activities to Increase Student Outcomes in an Information Technology Course	2017	16	Journal of Hospitality and Tourism Education

15	Campillo-Ferrer J.M., Miralles-Martínez P.	Effectiveness of the flipped classroom model on students' self-reported motivation and learning during the COVID-19 pandemic	2021	14	Humanities and Social Sciences Communications
16	Mojtahedi M., Kamardeen I., Rahmat H., Ryan C.	Flipped Classroom Model for Enhancing Student Learning in Construction Education	2020	14	Journal of Civil Engineering Education
17	Janson A., Söllner M., Leimeister J.M.	Ladders for learning: Is scaffolding the key to teaching problem-solving in technology-mediated learning contexts?	2020	13	Academy of Management Learning and Education
18	Tugun V., Uzunboylu H., Ozdamli F.	Coding education in a flipped classroom	2017	13	TEM Journal
19	Sherrow T., Lang B., Corbett R.	The flipped class: Experience in a university business communication course	2016	12	Business and Professional Communication Quarterly
20	Uskoković V.	Flipping the flipped: the co-creational classroom	2018	11	Research and Practice in Technology Enhanced Learning

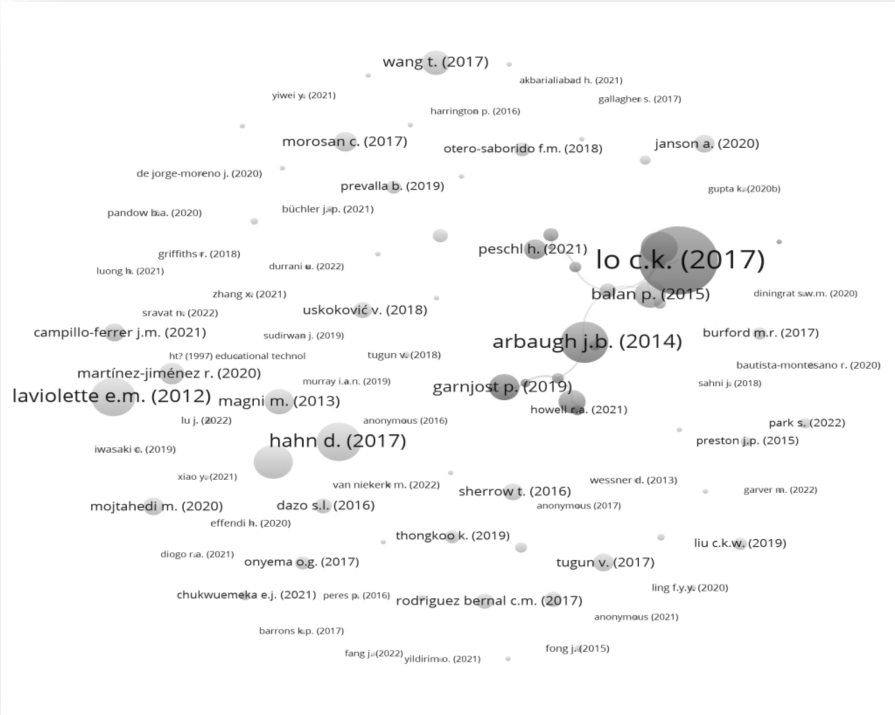

Figure 5 Authors having most citations. (Names of the first author only is shown in this figure)

Author Productivity through Lotka's Law

Lotka's Law (Lotka 1926) predicts the number of publications published by each author in a particular field. That is, 60% of the authors will write one article, 15% will write two, 7% will write three, 4% will write four, etc. Figure 6 was created with a dataset from Scopus via R Studio. The figure presents the results for papers on Flipped classroom alongside the predicted distribution according to Lotka. It shows that 97.2% of authors have just one publication, 2.8% have two, and 0 % have three. This indicates that flipped classroom authorship does not currently comply with Lotka's Law. The dashed line in the graph represents the graph that should be according to Lotka's Law.

As maximum authors produce only one publication on flipped classroom during 1994-2022. This shows not much work has been done in the field of flipped learning.

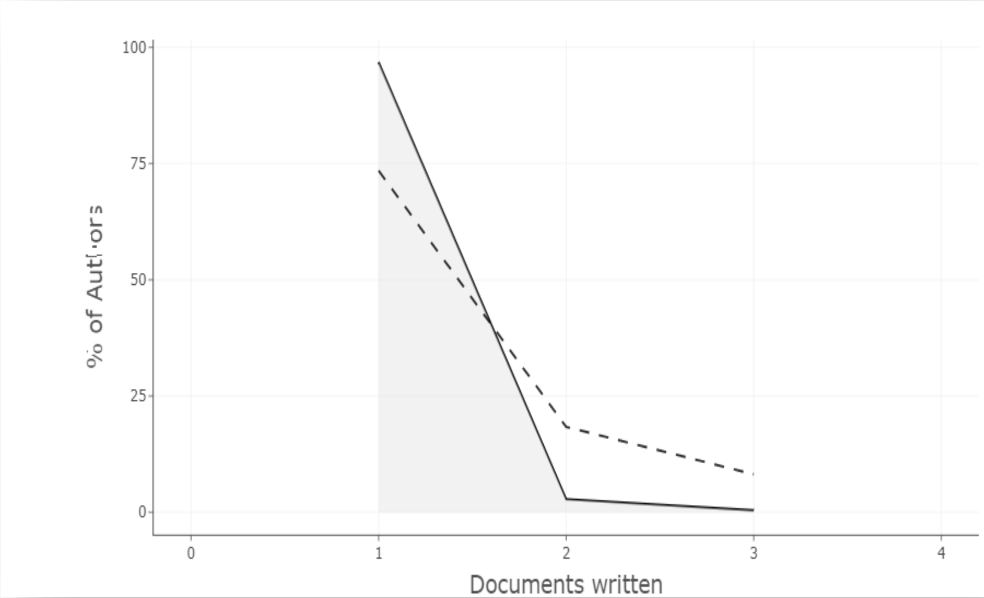

Figure 6: Author Productivity through Lotka's Law of productivity, and actual authorship distribution. Note(s):

Country specific Publication

Table 6 shows the countries which lead in the flipped classroom research field in Business, Management, and Accounting is USA having published 27 articles. Indonesia published 19 articles followed by Australia, China which published 15 each. Canada published 16 articles followed by Malaysia, UK /Germany, Iran and Spain. India and Italy has 6 publications each . The total of table 6 is more than 100 as many documents are co-authored by persons belonging to different countries.

Table 6: Country Specific Publication

Country	Authors
USA	27
INDONESIA	19
AUSTRALIA	16
CHINA	16
CANADA	15
MALAYSIA	12
UK	11
GERMANY	9
IRAN	9

SPAIN	9
BRAZIL	8
THAILAND	8
INDIA	6
ITALY	6
SLOVENIA	5
BULGARIA	4
CYPRUS	4
MEXICO	4
NETHERLANDS	4
NIGERIA	4
SOUTH AFRICA	4
FINLAND	3
FRANCE	3
UKRAINE	3

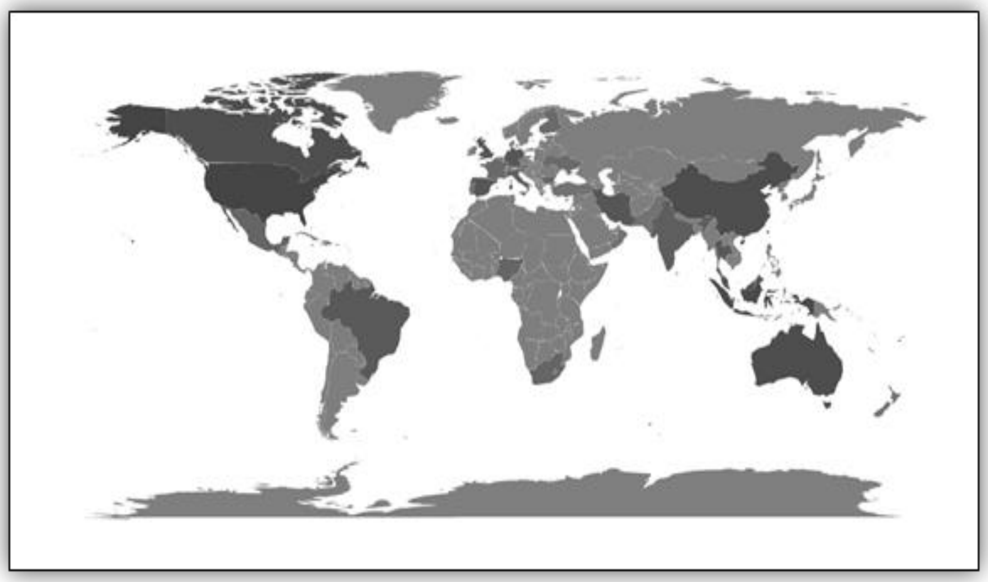

Figure 7: Geographical locations of contributing countries. Note(s): This figure was created with a dataset from Scopus via R Studio.

Figure 7 shows the geographical locations of all contributing countries, with the number of publications decreasing from dark to light , while grey indicates no contribution. USA, Indonesia, Australia, china ,Canada, Malaysia and the UK have the highest contributions.

Co-occurrence of all keywords

Figure 8 shows Co-occurrence of all keywords with minimum 1 occurrence. The figure shows a cluster of 476 items. All the words in the cloud viz. students, teaching, e-learning, education, Curricula, learning system, flipped classroom, higher education, information management, education computing are most trending.

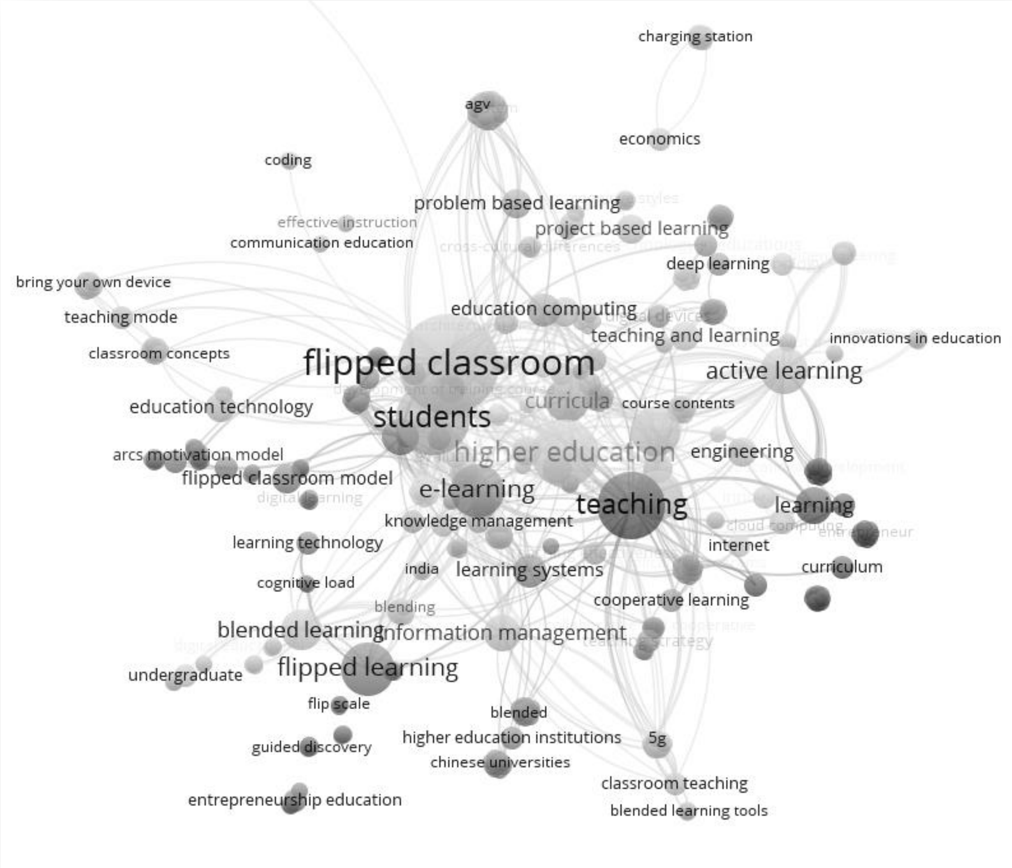

Figure 8: Co-occurrence of all keywords

Co –authorship

Figure 9 shows co-authorship of 250 authors who have written 100 publications. We see that there is not much collaborations between the authors. The analysis shows that the collaboration between authors working on flipped classroom is very low.

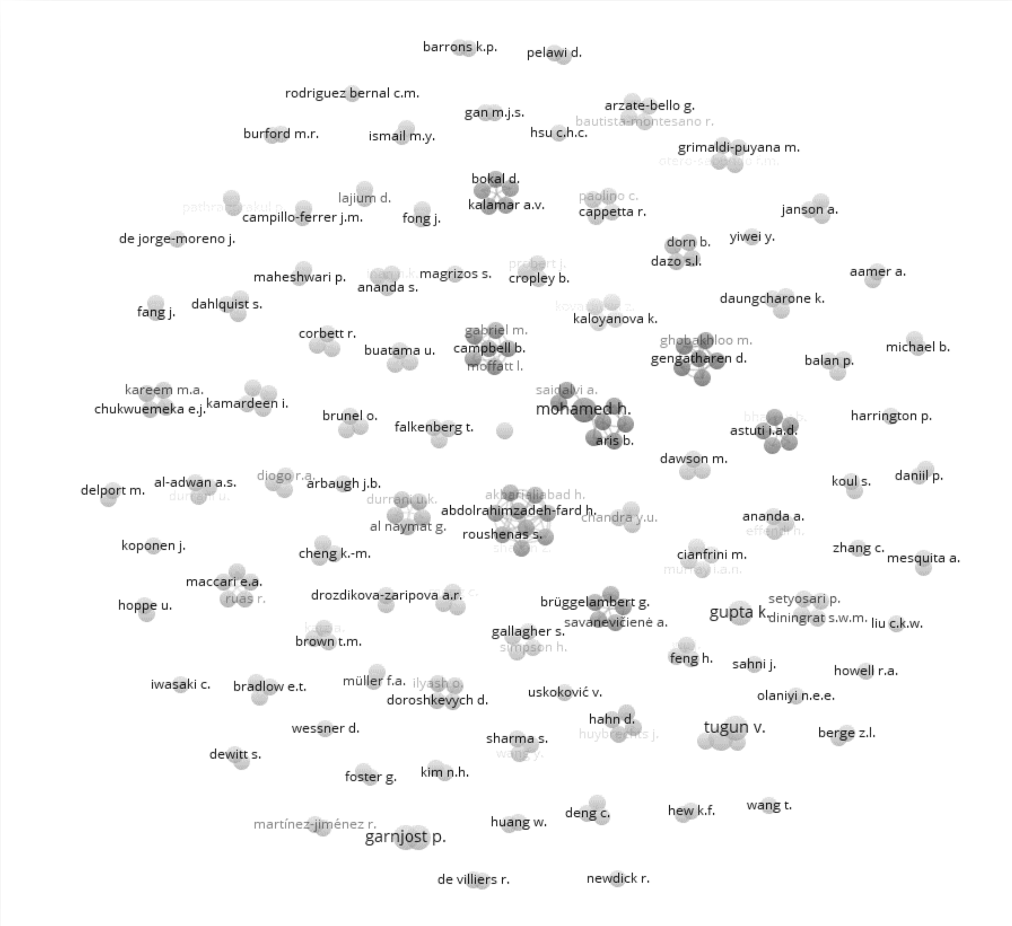

Figure 9: Co authorship

Institutional Affiliations

Table 7 shows the top 10 institutional /University affiliations of the authors. The authors affiliated to Shiraz University of Medical Sciences and Universidade Nove De Julho – Uninove have written 5 articles each; followed by Negeri Malang University, Shiraz University of Medical Sciences and Health Services, Administration and Management College have written 4 articles each.

Table 7 Institutional Affiliations

Serial No.	**Affiliation**	Articles
1	SHIRAZ UNIVERSITY OF MEDICAL SCIENCES	5
2	UNIVERSIDADE NOVE DE JULHO – UNINOVE	5
3	NEGERI MALANG UNIVERSITY	4
4	SHIRAZ UNIVERSITY OF MEDICAL SCIENCES AND HEALTH SERVICES	4
5	ADMINISTRATION AND MANAGEMENT COLLEGE	3
6	AJMAN UNIVERSITY	3
7	ARMSTRONG STATE UNIVERSITY	3
8	BOCCONI UNIVERSITY	3
9	EDITH COWAN UNIVERSITY	3
10	FEDERAL UNIVERSITY OF TECHNOLOGY	3

Thematic Map

Another analysis conducted in this study is the thematic map of flipped classroom. The aim of conducting a thematic map is to gain insight into the field's current status and what its future sustainability holds. This analysis is useful in providing knowledge to researchers and stakeholders regarding the potentials of future research development of thematic areas within a field.

The thematic analysis takes clusters of keywords and their interconnections to obtain themes. These themes are characterized by properties (density and centrality). The centrality is represented in the horizontal axis, while density takes the verticle axis. Centrality is the degree of correlation among different topics; density measures the cohesiveness among the nodes (Esfahani et al., 2019). These two properties measure whether certain topics are important or not ,well developed or not. The higher the number of relations a node has with others in the thematic network, the higher the centrality and importance, and it lies within the essential position in the network.(Agbo et al., 2021). Similarly, cohesiveness among a node, which represents the density of a research field delineates its capability to develop and sustain itself. In Fig. 9, we provide the thematic map of the field of a smart learning environment, which is basically divided into four quadrants (Q1 to Q4).

The upper-right quadrant (Q1) of Thematic map in Figure 10 are motor themes which represents driving themes. These are "Higher Education Information Management Learning System", "Students Teaching Curricula"", and Cooperative Learning internet Teaching Effectiveness curriculum. These are well researched themes and hence suitable for systematic literature review (SLR) and bibliometric analysis.

The upper-left quadrant t (Q2) is the very specialized themes, namely "deep learning" and "technology in education". The thematic analysis suggests that more efforts are needed to develop themes as they are niche themes.

The topics in the lower-left quadrant (Q3) namely" Problem based learning" and "blended learning" are emerging or disappearing themes.

The lower-right (Q4) are the basics and are very important for the field's development. namely "Collaborative Learning" and "Independent Learning".These topics are are foundational and transversal, hence these topics can be taken for further research.

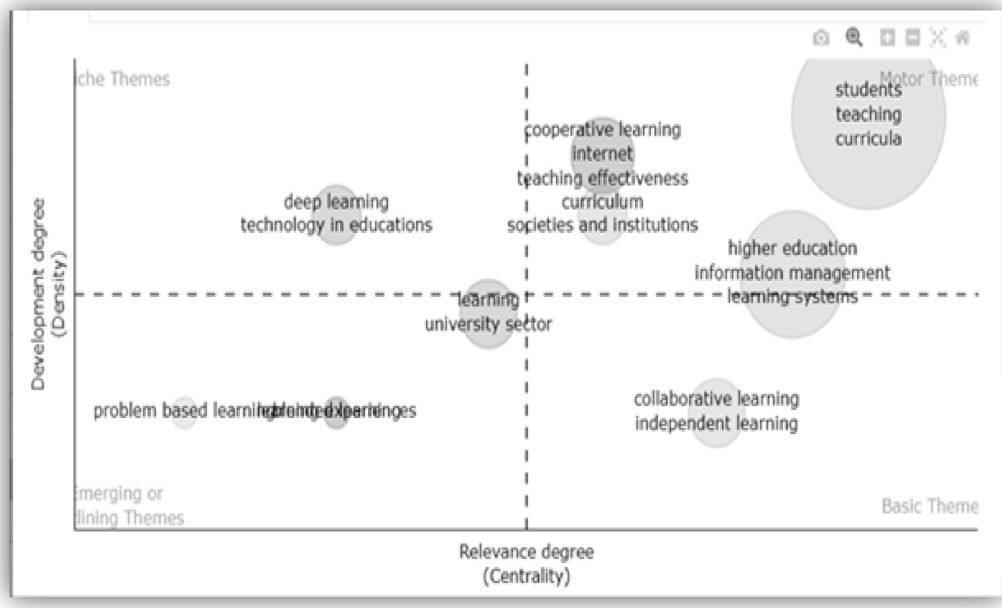

Figure 10: Thematic Map: Q1 contains the main theme, Q2 contains highly developed and specialized themes building ties with the leading theme; Q3 contains disappearing or emerging themes; Q4 consists of foundational and transversal themes

IMPLICATIONS AND LIMITATIONS

Every researcher needs to know what the research trend is, which journal publishes more publications in the field, which are the most influential papers that should be read which countries a are involved in the research, which are the best collaborations between countries, or researchers, which are the reference researchers that should be followed, what is the evolution of the field over the years. A thematic overview of related studies is necessary for a comprehensive understanding of this large and diversified research field.

This study would help researchers explore the development trends and status quo of flipped classroom research. The future researchers can identify international collaborations and potential collaborators on flipped classroom research. It would help in identifying influential and productive countries, institutions, and authors that are internally connected. It would also facilitate scholars to find suitable journals for publishing flipped classroom related papers quickly. The analysis of thematic map would help researchers to understand research domains and future directions clearly.

However, there are several limitations of this study. Firstly, the scope of this research is limited to English peer-reviewed papers collected from Scopus database. Consequently, there is no information on other databases. Other international databases such as WoS, CSSCI could have been used. However, Scopus is the largest global and widely used database for analysis of Business, Management and Accounting publications.

Secondly, the latest publications (2022 publications) that were accepted but not indexed in Scopus were ignored. Nevertheless, such limitations are unlikely to affect the results identified in this study. Taking all the above into consideration, it is obvious that the results of the analyses are stable, reliable, and almost unaffected by subjective experience.

CONCLUSION

This study contributes to the understanding of the flipped classroom in area of Business, Management and Accounting education by conducting a bibliometric analysis of 100 research publications in Business, Management and Accounting education between 1994 and 2022 from the Scopus database. The analysis reveal that flipped learning education is a relatively new field of research in Business, Management and Accounting. In the current scenario where Government of India has implemented National Education policy (NEP 2020) and as a consequence Universities across India are introducing new curricula having lots of skilled based courses and elective papers, starting with University of Delhi, it is imperative that researchers can make use of this analysis of the flipped classroom research field. As traditional methods of teaching faces many challenges, new and different teaching method such as flipped classroom might be a sought after pedagogy in coming decade.

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CONSUMER ADOPTION OF ELECTRIC VEHICLES: A SYSTEMATIC LITERATURE REVIEW

Savita Rastogi[1*], Satyam[2]

The purpose of this research is to do a systematic literature review of consumer adoption of electric vehicles (EV) and an overview of theoretical perspectives that have been used to understand consumers' adoption behavior towards EVs. This research uses a combination of the Conventional SLR approach and the TCCM approach. This literature review shows that the Technology Acceptance Model, Theory of Reasoned Action, and Theory of Planned behavior are the three major theories to understand consumer adoption of electric vehicles. This study is a comprehensive analysis of the emerging field of EVs. The researchers have also identified some overlooked areas in EV research and have proposed future research directions.

Keywords: *electric vehicle, consumer adoption, systematic literature review, conventional SLR approach, TCCM approach*

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INTRODUCTION

Air pollution is becoming one of the most serious environmental hazards confronting Indian society and affecting the country's citizens due to the rising automobile industry (Virmani et al., 2021). Only vehicular pollution accounts for about 51 percent of air pollution in India whereas, in metropolitan areas, this figure can go up to 80 percent (Balakrishnan, 2019). The government of India has declared that it will not leave any stone unturned to switch all automobile businesses in India to EVs by 2030 (Parvatha Vardhini, 2019).

There has been a growing interest all over the world toward the usage of less polluting and more energy-efficient transportation modes like electric vehicles either by choice or by encouragement from government policies and initiatives. Advanced battery technology in the electric vehicle makes it a technology-based product. The adoption of electric vehicles can reduce India's dependence on foreign oil and can also solve India's environmental pollution problem. According to the International Energy Agency's report [5], the transportation sector contributes around one-fourth of the total universal greenhouse gas, projected to increase from 23% to 50% by 2030. Therefore, switching to better and more effective vehicles is considered an efficient method for reducing carbon emissions by several countries. The transportation sector is the third-largest CO2 emitter in India, which accounted for around 11% of the total CO2 emissions in 2016 (Janssens-Maenhout et al., 2017).

The transport sector in India accounts for around 10% of energy-related carbon emissions (GoI, 2015) and is a major source of air pollution (Jain et al., 2016). During the period 2010–19, the number of registered two and four-wheelers in India has grown roughly at a rate of 10% annually (GoI, 2018). India is one of the fastest-growing major economies of the world and as the economy grows further, the increase in household income levels, rising population, and increasing urbanization are likely to continue driving the share of personal transport even more, further exacerbating the environmental and energy concerns (Dhar et al., 2017). The uptake of Electric Vehicles (EVs) will depend heavily on how consumers perceive them. People often tend to be skeptical when new technologies such as EVs are introduced, as they are generally seen as novel technologies of which mass-market consumers have very little experience or knowledge (Garling and Thogersen, 2001).

PURPOSE AND METHOD

The purpose of this research study is to review the existing literature systematically and to identify the gaps in the literature. We have adopted Paul and Rosado-Serrano's TCCM approach (2019) along with Webster and Watson's Conventional SLR approach (2002) for the review process. TCCM is the acronym for theory (T), context (C), characteristics (C), and methodology (M). By applying TCCM analysis this study analyses the most relevant theories in electric vehicle (EV) research, analyzing the influence of countries (context), understands antecedents and consequences of electric vehicle research, year-wise publication trend, prominent authors in EV research, and methodology used by researchers in the field of electric vehicle research.

Content analysis

A content analysis of published literature reviews was done to understand the current scenario in the systematic literature review (SLR) in the above-mentioned field of study. The researchers found

[5] International Energy Agency (IEA). World Energy Outlook 2009; IEA: Paris, 2009

six articles on review of literature in the Scopus database and three on the Web of Science. For details see table 1

Table 1: Details of review papers considered in this study

No.	Review articles	Focus	Type of articles used for review	No. of studies	Year Range
1.	Liao et al. (2016)	Consumer preference for EV	Journal articles	26	2002-2013
2.	Rezvani et al. (2015)	Consumer EV adoption	Journal articles	15	2007-2014
3.	Kumar and Alok (2019)	Nomological network of EV adoption	Journal articles	239	2010-2018
4.	Lan et al (2022)	Bibliometric analysis on fault diagnosis of batteries in EV	Journal articles	536	1995-2021
5.	Stockkamp et al (2021)	Consumer adoption of EV and co-occurrence analysis for deriving network of factors	Journal articles	49	2010-2019
6.	Goel, et al (2021)	Barriers to EV adoption in India	Journal articles	35	2012-2020
7.	Muratori et al (2021)	Current state of academic literature on EV	Academic literature and journal articles	75	2000-2020
8.	Hardman et al. (2018)	EV charging infrastructure	Journal articles	58	2010-2017
9.	Austmann (2020)	Drivers of EV market	Journal articles	42	2010-2020.

Liao et al. (2016) review is based on 26 documents published between 2002-2013. This review is limited in scope as it reviews modeling techniques applied in selected studies. Rezwani et al. (2015) reviewed 15 research papers published between 2007 and 2014 which provide an important overview of theoretical perspectives in EV research. Kumar and Alok (2019) reviewed 239 articles from 2010 to 2018. This review by Kumar and Alok provides insightful findings regarding research on EVs by making the nomological network of main antecedents, consequences, mediators, and moderators in EV research. Lan et al., (2022) review is based on 2536 journal articles using VOSviewer and CiteSpace software to develop a thematic analysis on fault diagnosis of lithium-ion batteries used in EVs. Stokkamp et al. (2021) reviewed 49 journal articles for a systematic literature review to understand the consumer adoption of EVs and co-occurrence analysis. Goel et al. (2021) analyzed the existing literature on barriers to EV in the Indian context using the DEMATEL approach (Decision-Making Trial and Evaluation Laboratory analysis).

Muratori et al. (2021) reviewed the academic literature and journal papers to understand the current state of the EV market and future projections.

Hardman et al. (2018) reviewed 58 articles on electric vehicle charging infrastructure and consumer preferences regarding it. Austmann (2020) reviewed 42 articles from 2010 to 2020 for understanding the drivers of the EV market.

In the present study, the researchers have attempted to do the synthesis using the TCCM framework given by Paul and Rosado–Serrano and the Conventional approach to SLR given by Webster and Watson.

Online databases used for research

Scopus, Web of Science, Proquest, JSTOR, Emerald, Sage, Science Direct, and Taylor & Francis. A total of 206 research papers were found in the above databases using specified combinations of keywords: ‘electric vehicle’ and/or ‘consumer adoption’ and/or ‘systematic literature review’

Inclusion and exclusion criteria

i) Studies before 1994 were excluded.
ii) Duplicate studies (same paper downloaded more than once from the same or different online database) were excluded.
iii) Studies not relevant to consumer adoption of EVs were excluded.
iv) Book chapters, conference papers, thesis and dissertations were excluded.
v) All journal articles whether indexed or peer-reviewed were included.
vi) Studies published in the English language only were included.

Based on the above inclusion-exclusion criteria the final dataset included 48 articles. Out of 48 articles, nine were review papers.

Year-wise publication

Figure 1 represents the year-wise growth of research in the field of EV in papers extracted from the Scopus database. Significant growth was witnessed in 2018.

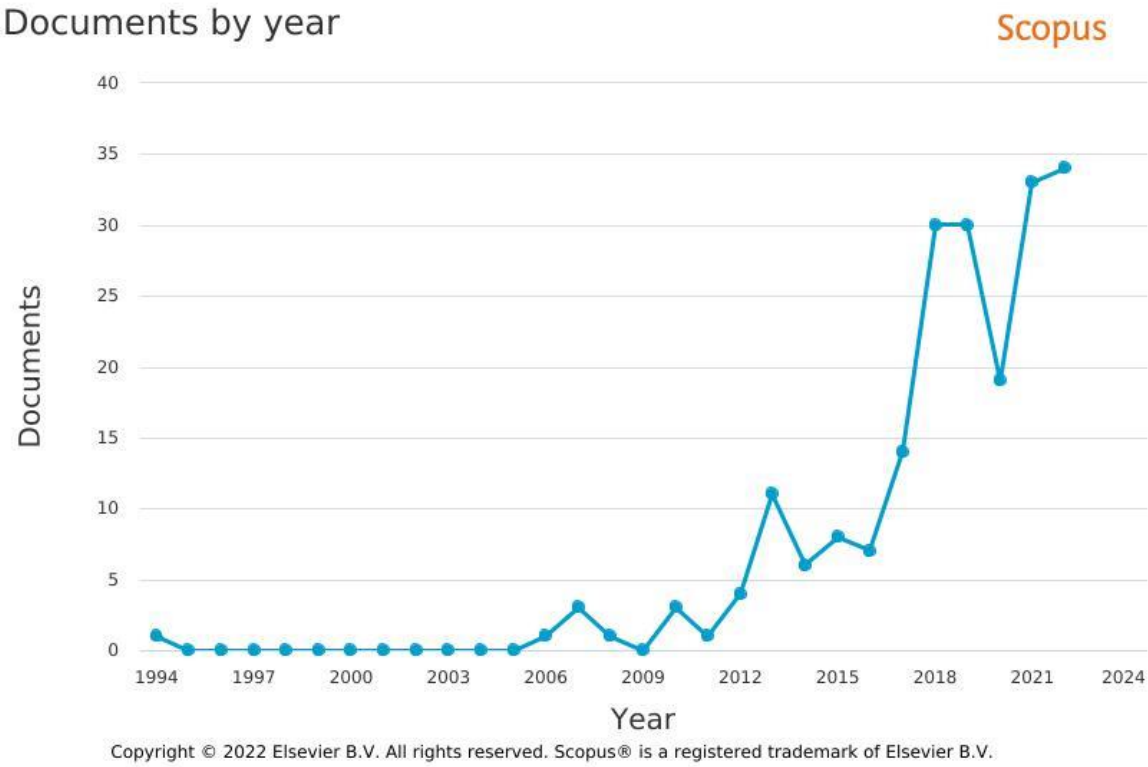

Figure 1:Year wise growth of research in the field of EV
(Source: Elsevier)

Theories in consumer EV adoption research: a review

The majority of the studies considered in this review were based either on the Technology Acceptance Model (TAM) or the Theory of Reasoned Action (TRA) or the Theory of Planned Behavior (TPB). It implies these three theories have been widely used in consumer adoption of EV studies.

Technology Acceptance Model (TAM)

The acceptance of new technology which is responsible for the resistance of individuals is explained with the help of the Technology Acceptance Model given by Davis (1989). It explains that the intention of people to adopt new technology depends on two factors: perceived ease of use and perceived usefulness of technology as both factors are influenced by various external factors. Even though it is used to explain the acceptance of computer technology by employees, the model has seen wider acceptance in the other fields where new technologies are introduced like environment-friendly technology adoption studies as well. This model had been widely adopted by various researchers in studying the behavior of consumers to go for e-vehicles. Perceived usefulness, perceived ease of use of e-vehicles, and perceived risk and attitude are driving the consumers' intention to use e-vehicles (Yankun, 2020). The study using TAM to understand the acceptance of electric vehicles can affirm that the environmental concern in addition to perceived ease of use, and perceived usefulness is instrumental in the intention to use electric vehicles (Wu et al., 2019). According to the TAM model, the perceived usefulness of the product is affected by various external factors.

Another study used the TAM model to find that marketing stimuli like relative product innovativeness, product advantage, price, and incentives play an important role in the purchase intention of e-vehicles (Shanmugavel and Micheal, 2022).

Some researchers simplified TAM by excluding the attitude toward using innovative technology (Venkatesh and Davis, 2000). The reason is that measurement of attitude is difficult (Venkatesh et al., 2003) and the mediation effect of the attitude construct as a mediator between consumer's belief (perceived usefulness and ease of use) and behavioral intention is weak (Yen et al., 2010). According to Venkatesh, simplified TAM may be more predictive than original TAM in consumer behavior studies. Attitude only partially mediates the effect of perceived usefulness and ease of use on the adoption intention of an electric car (Jaiswal et al., 2021).

Perceived usefulness and Perceived ease of use

Perceived usefulness is consumers' subjective belief towards the usage of new technology (Venkatesh and Davis, 2000). These beliefs have a positive influence on consumers to adopt electric vehicles.

The degree of consumers' favorable belief that usage of electric vehicles / new technology will be easy (Venkatesh and Davis, 2000). Perceived case of use can influence consumers' perceived usefulness (Want et al., 2016). Perceived usefulness, perceived ease of use, and environmental concern have a positive relationship with the intention to use EVs (Wu et al., 2019). EV adoption intention is positively related to perceived usefulness and negatively related to perceived risk (Wang et al., 2018). Attitude only partially mediates the effect of perceived usefulness and ease of use on the adoption intention of EVs (Jaiswal et al., 2021).

Using the Technology Acceptance Model, it was found that when consumers' perceived overall satisfaction with EVs is higher, then consumers' perceived usefulness (perceived relative advantage) and perceived ease of use (opposite of perceived complexity) of EVs are also higher (Wolff and Madlener, 2019).

A study that used the extended TAM model to understand various factors of EV adoption found that technological knowledge of EVs is positively and significantly related to EVs' perceived usefulness and perceived ease of use. Also, there is no direct and significant relationship between perceived fun to use and willingness to adopt EVs (Huang et al., 2021). The dissemination of information on the rapid charging of EVs influences perceived usefulness and consequently perceived ease of use (Krause et al., 2018).

Perceived risk

Research studies have shown that perceived risk is negatively associated with the adoption of electric vehicles (Kim et al., 2018; Wang et al., 2018). Perceived risk has various attributes about the usage of electric vehicles like high investment, performance, driving range, charging time, charging infrastructure, etc. Perceived risk also reduces consumers' beliefs about electric vehicles' usefulness and ease of use (Cheng et al., 2019). Research also shows that consumers who are not comfortable with electric vehicle technology will harm the perceived usefulness and perceived case of use of electric vehicles (Mwasilu et al., 2014).

A study in Germany found that assessment of risk associated with low noise emissions considerably decreases with increased driving experience of EVs (Cocron and Krems, 2013). A study found that perceived risks associated with EV technology are influenced by the manufacturer's expertise and trustworthiness (Featherman et al., 2021).

A study found that performance risk, social risk, and charging time risk are the three major risks perceived by people about EVs in China (Shu et al., 2022).

Environmental Consciousness

Environmental consciousness means the emotional outcome of a consumer by way of empathy toward environmental problems (Minton and Rose, 1997, Hamsal et al., 2008). Consumers who have greater concern for the environment have more inclination to adopt eco-friendly vehicles like electric vehicles. Environmental consciousness drives consumers toward EV adoption (Schuitema et al., 2013). High carbon taxes can increase the adoption rate of electric vehicles (Shiaua et al., 2009).

A study investigated whether people and their opinions about the environmental efficacy of EV change over time and after an experience of EV. It was found that trial users are less likely to cite environmental benefits as a reason to choose EVs (Gould and Golob, 1998).

A study found that there is a moderating effect of lifestyle on fashion consciousness, environmental consciousness, and price consciousness. Fashion consciousness moderates the relationship between relative advantage and perceived risk. Environmental consciousness influences the relationship between technology compatibility and perceived risk. Price consciousness plays the smallest role in this process (Xie et al., 2022).

Knowledge of electric vehicles

Knowledge about a product is an important factor in consumers' attitudes toward electric vehicles (Egbue and Long, 2012). Knowledge could be receipt of information about cost, maintenance, ease of use, government incentives, and infrastructure for electric vehicles (Bennett and Gopal, 2018).
A study examined the role of consumer knowledge about EVs on their purchase and use. Misperceptions about the purchase price and fuel and maintenance savings were found to be significantly affecting EV purchase decisions (Krause et al, 2013). In a study, it was found that consumers' knowledge and experience of factors like price, range, and charging infrastructure are responsible for EV adoption (Noel et al., 2020).

In a study, it was found that a lack of knowledge among Canadian consumers about EVs resulting in negative perceptions about plug-in and plug-in hybrid technology was responsible for slow EV adoption in Canada (Axsen et al., 2017).

The main reasons for limited knowledge and negative perceptions about EVs are due to three problems: purchase price, limited range, and poor infrastructure of charging (Fry et al., 2018).

Theory of Reasoned Action (TRA)

The theory of Reasoned Action given by Martin Fishbein and Icek Ajen in 1975 is the most important theory to understand the attitude. Belief is the antecedent of attitude and behavioral intention is the outcome (Ting and Run, 2015). Attitudes, intentions, and behavior are spontaneous and influence each other (Feldman & Lynch, 1998). Attitude is human nature to respond favorably or unfavorably towards a thing (Ajen, 1989). Attitude is a person's learned predisposition driving that person to respond (Fishbein and Ajen,1975). Attitude comprises favorable and unfavorable feelings toward marketing and advertising (Zaremohzzabieh et al., 2020). Attitude helps to explain an individual's behavior (Richard and Chandra, 2005). The intention to perform a behavior is determined by a person's attitude (Xu, 2006).

Subjective norm (Normative belief)

This concept deals with the influence of the social environment on consumers. There is a significant relationship between subjective norms and attitudes toward a product (Carley et al., 2013). The personal subjective norm of an individual consumer activates their pro-environment attitude (Jansson et al., 2010). Subjective norms can positively influence the purchase intention of residents who are not sure whether to buy or not an EV (Wang and Dong, 2016). Subjective norms, attitudes, perceived usefulness, and knowledge positively influence the adoption intention of consumers towards battery swap technology of EVs (Adu–Gyamfi et al., 2022).

Theory of Planned Behavior

The theory of Planned Behavior given by Icek Ajen in 1991 is the most important theory to understand perceived behavioral control. An individual may have adoption intentions for EVs. Such action has a normative belief also in the positive direction (subjective norm). This leads to the intention to buy EVs. Such an individual also has in mind that EVs do not cause air pollution (perceived behavioral control).
In a recent research study, it was found that subjective norms and perceived behavioral control positively affect interest in using EVs (Gunawan et al., 2022).

Egbue and Long applied the Theory of Planned Behavior to innovation adoption behavior. Consumers' resistance to anything new or technologically advanced is inherent and it is the most important factor which influences consumers' decision-making. This factor is the main barrier to the adoption of an electric vehicle by consumers (Egbue and Long, 2012). In developed countries like the USA, preference for a green lifestyle and education are the major factors that are responsible for the adoption of electric vehicles (Carley et al., 2013). But in developing countries, the general population bought electric vehicles due to fuel savings rather than environmental or green concerns (Shetty et al.,2020).

In a study conducted in the USA, it was found that the main factor hindering the adoption of the electric vehicle was the high cost of the battery of the electric vehicle (Hidrue et al., 2011). It is not appropriate to use income, education, and concern for the environment as predictors of buying electric vehicles. It is the availability of charging stations and local electric vehicle manufacturing plants which can predict the buying of electric vehicles (Sierzchula et al., 2014). The customers put personal mobility over and above the environmental benefit. Electric vehicle requires a huge initial investment. The major factors considered by customers are cost, environmental concern, impression management, and perception of electric vehicles (Graham–Rowe et al., 2012).

Price and range are the major determinants of the sale of electric vehicles (Lieven et al., 2011). Plug-in electric vehicles are more in demand than electric vehicles because of battery technology and the perception of customers (Carley et al., 2013). The three attributes of electric vehicles that affect the perception of the adoption of an electric vehicle by consumers are instrumental, symbolic, and hedonic attributes. The factors included the price of an electric vehicle, recharge time of the battery, driving range, and driving experience (Schuitema et al., 2013). Factors like age, gender, and the number of family members affect the purchase decision about electric vehicles (Bergstad et al., 2011). When consumers identify themselves as pro-environmentalists, it affects their perception of electric vehicles in a positive way (Khaligh and Li, 2010). Electric vehicle architecture, energy management systems, drivetrain component functions, and energy storage trade-offs are the main factors in the assessment of plug-in hybrid electric vehicles (Bradley and Frank, 2009). High carbon taxes can increase the adoption rate of electric vehicles (Shiaua et al., 2009). The barriers to electric vehicles are intentionally put up by companies and individuals who have big stakes involved in gasoline vehicles (Sovacool and Hirsh, 2009). Appropriate marketing of electric vehicles in accordance with consumer behavior can help electric vehicle manufacturers (Pearre et al., 2011).

Countries

Figure 2 represents the top 10 countries identified in the Scopus database which are leading in consumer adoption of EV research. USA and China are the leading countries in EV research and the collaboration among authors of these two countries is also maximum.

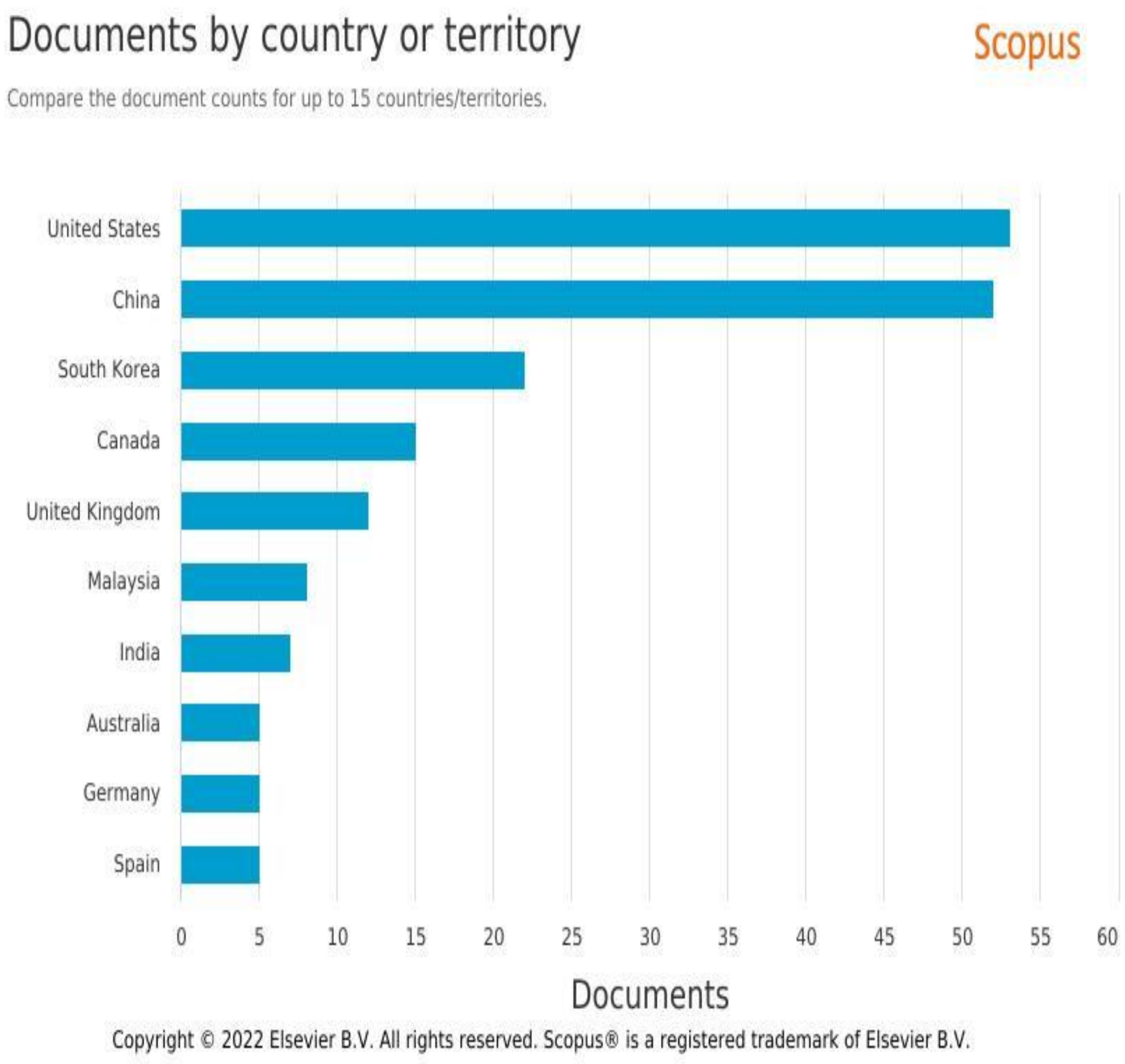

Figure 2 – Leading countries in EV research
(Source: Elsevier)

Prominent authors

Figure 3 represents the top 10 authors in consumer adoption of EV research as per data extracted from the Scopus database.

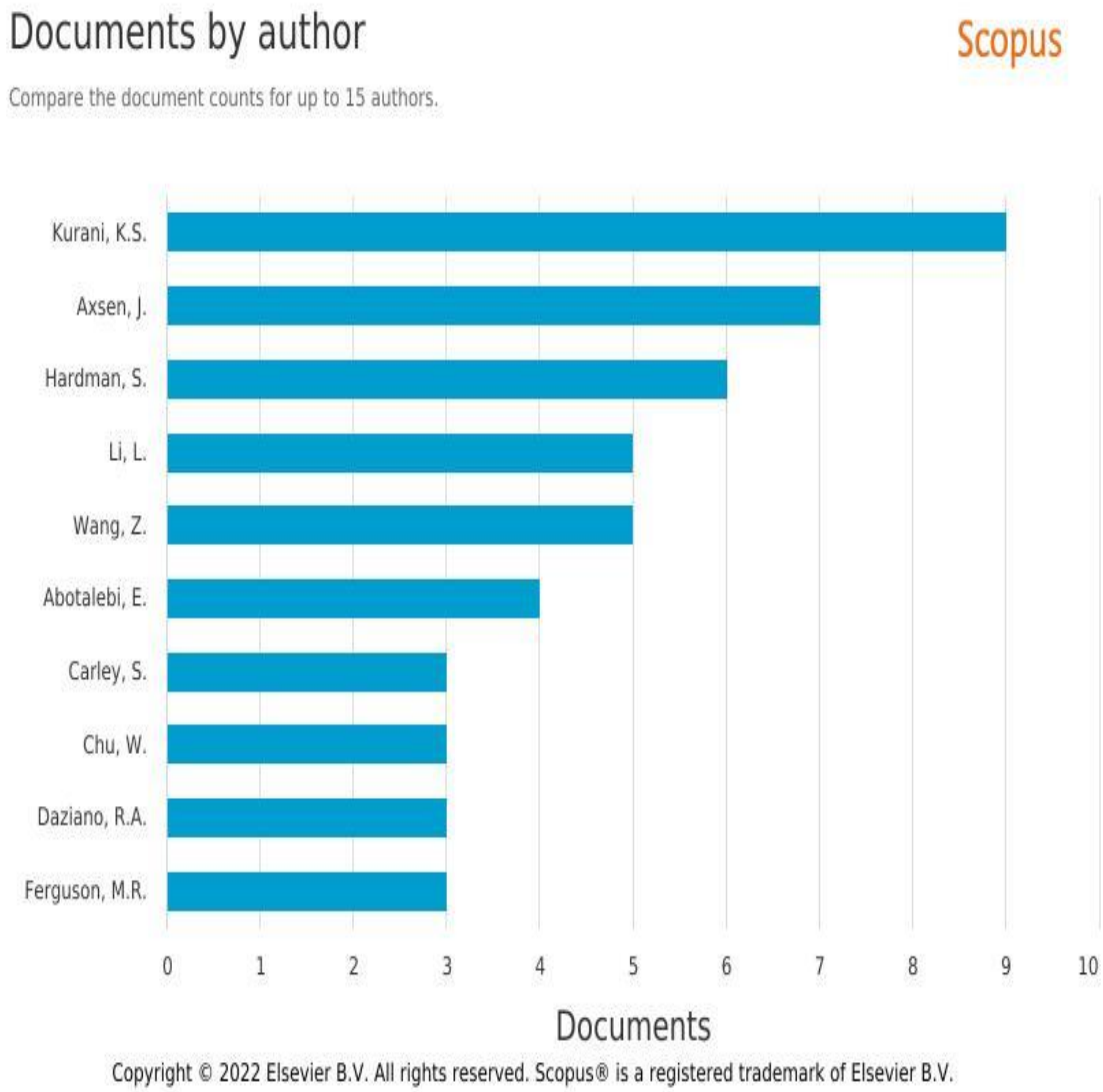

Figure 3: Prominent authors in EV research

(Source: Elsevier)

Keyword co-occurrence in EV research

VOSviewer version 1.6.18 was used to draw a bibliographic network of keywords co-occurrence in EV research trends.

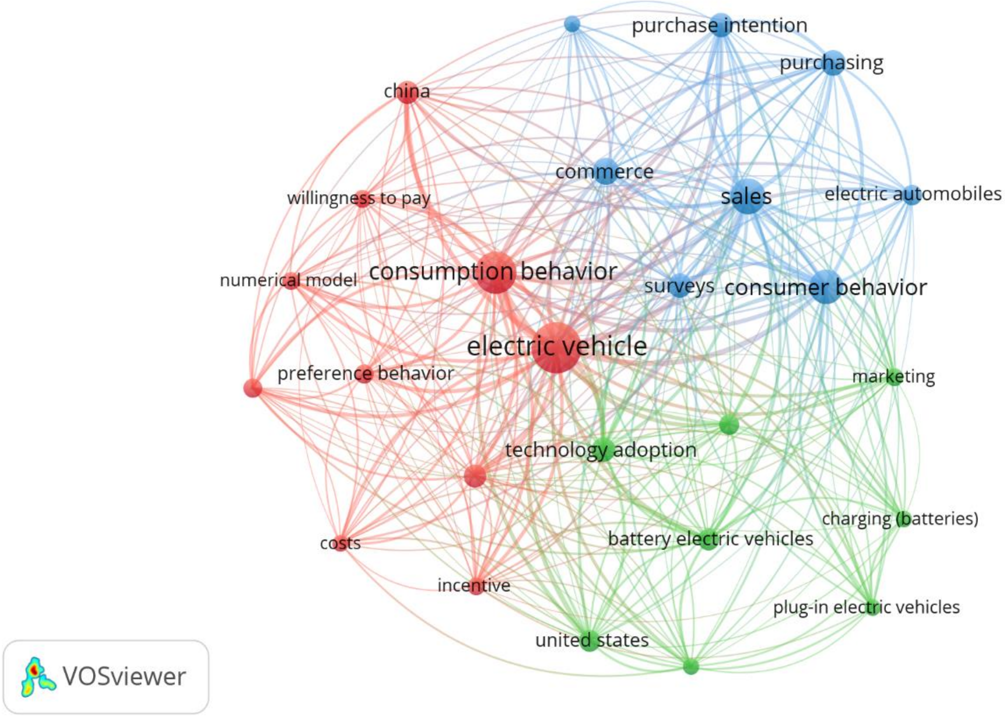

Figure 4: Keyword co-occurrence analysis

RESEARCH GAPS

1. There is no research study on how consumers' negative attitudes toward EVs impact their adoption intention.

2. The researchers could not find a research study on comparative analysis between consumer adoption of EVs in developing and developed countries.

3. There is a lack of research studies on the influence of EV branding strategy on consumers' decision journeys.

4. There is a lack of qualitative research studies on consumer adoption of EVs.

FUTURE RESEARCH DIRECTIONS

1. Future researchers can make use of Behavioural constraint theory to examine how consumers' negative attitudes toward EVs impact their adoption intention. According to Behavioural Constraint Theory, an organization suffers loss when there is some constraint in the system. Similarly, customers have negative attitudes towards EVs which can be a barrier to the success of EVs. So an EV manufacturing firm may incur losses due to consumers' negative attitude towards EVs.

2. Future researchers can compare consumer adoption of EVs in developing and developed countries. The reasons for adopting EVs in a developed country may be quite different from the reasons for adopting EVs in a developing country. Future researchers can make use of Behavioural Reasoning Theory (BRT) for a comparative analysis of reasons for and reasons against the adoption of EVs in developed and developing countries. The rate of EV adoption differs across countries. In developed countries, the adoption rate is very high like in Scandinavian countries.

3. Future researchers can study the role of EV branding strategies on consumers' decision journeys. EV manufacturing companies are focussing more on promoting their brand digitally. For instance, in India, Tata Motors' focus on digital marketing led to the success of their EV brand 'Nexon EV' in the Indian EV market which was crippled by the pandemic Covid'19. The Tata Nexon EV digital campaign ‘Never been to EVergreen’ is very successful.

4. The majority of the studies in EV research are quantitative. Future researchers can use qualitative methods and mixed research methods to discover new factors affecting consumer adoption of EVs. Qualitative research methods like the qualitative interview technique can be used by future researchers. A mixed method approach in which the researcher uses a combination of qualitative and quantitative methods can also be used by future researchers in EV research.

CONCLUSION

A thorough analysis of the literature available on consumer adoption of EVs has been done by using a combination of the TCCM framework (Paul & Rosado–Serrano, 2019) and the conventional systematic literature review method (Webster and Watson, 2002). A proper compilation of theories and variables involved will provide directions to future researchers.

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A SOCIAL DIVE INTO RECRUITMENT PROCESS: CONCEPTUALISATION

Nishtha Grover[1]* & Karan Grover[2]

Human Resource Management can be labelled as the effective link that bridges the gap between employees' performance and the organisation's purposes. It is claimed that influence of technological advancement in HRM is a trail towards greater strides. Recruitment is one of the aspects that have evolved new avenues to achieve its objective through online platforms. The growing influence of social networking sites (SNSs) is a channel of communication as well as socializing around the globe focus on way this evolving trend will touch various aspects of recruitment process too. Conversely, such technological induced inclination may have adverse consequences as well. The paper aims to clarify the relationship between growing influence of social networking sites and recruitment. It proposes modelling the social recruitment transformation process and outlining conceptual understanding framework by scrutinising the various notions attached to social media incorporation in recruitment process stated in academic literature. The study aims to expand the domain of social networking sites by including a broader range of human resource related conceptualisations than is normally found in the literature.

The paper opted for an exploratory study using the open-ended approach of grounded theory. The data were complemented through secondary research including social media boom in organisation and copies of employee magazine articles. The paper provides empirical insights about how change is brought about during recruitment and overall organisation. It suggests various notions around social media incorporation in recruitment process and how it can be a make or break opportunity for organisation in today's competitive environment. Because of the chosen research approach, the research results may form a basis for future findings and may lead to more exploration in coming times. Therefore, researchers are encouraged to evolve the proposed propositions further. The paper includes implications for the development of a powerful relation between organisations and candidates which will further helps organisation to take a step further in this competitive skill drive workforce market. This paper fulfils an identified need to study how social networking sites influences behaviour and other aspects of organisations.

Keywords: *Human Resource Management, E-Recruitment, Social Media Recruitment, Social Networking sites (SNSs), LinkedIn, Twitter, Facebook*

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INTRODUCTION

Digitalization has emerged as the foundation of competitiveness in the industrial and corporate environment. The companies have to manage the intricacies that come along with the way in varied magnitudes to leverage the capacities of digitalization intended for their growth, objectives and benefits (Holland & Bardoel, 2016)[1]. The influence of technological advancement impacted most of corporate bodies and constantly transformed the way of performing various business functions. One of the areas which did not escaped to leverage new ways of performing tasks and activities is the human resource management (HRM) function in organization. Presently, electronic Human Resource technology supports most of human resource activities to achieve the organization's Human Resource objectives through this technological advancement (Baykal, 2020)[2]. While HR functions in different areas comprising employee engagement, employee growth, data management, statutory compliance etc, but attracting, selecting and onboarding suitable candidates for the organization is one of the vital function for HR is to perform. In contemporary world, a prerequisite for efficient and effective strategies, methods and techniques in process mean best utilization of human resource knowledge, skill and intelligence. As a result, there lies a requirement to recruit highly qualified and talented human resources in order to outperform the competitors in market (Bejtkovský et al., 2018)[3].

Breaugh (2008)[4] elucidates that the recruitment process at a broad sense comprises of various activities – defining objectives for recruitment, creating the recruitment strategy, executing the recruitment and further assessing its outcomes. The organisations are shedding conventional practices and experimenting some possibly new methods. Unlike conventional methods of recruitment, the facets of recruitment have been changing and evolution of electronic recruitment process is becoming prevalent. Organisations are leveraging new technological avenues to flip the job hiring process on its head. The rationale behind this transformation is not only a new trend tool but Covid pandemic has made this electronic shift a necessity.
At present, organisations and job candidates both are exploring technological avenues predominantly, social media to stay relevant and ahead. Social Media is the farrago of myriad social networking sites (SNSs) for example Facebook, Twitter, LinkedIn, etc. Social media and social networking sites is described as "a set of applications related to the web which operate on the Web 2.0 in terms of conceptual and technological grounds and that consent the formation and transaction information produced by the user" (Rana & Singh, 2016)[5.]

Internet users in India are ~ 622 million internet users in 2020 and expected to increase further to 900 million by 2025, growing at a CAGR of 45% until 2025. ("E-COMMERCE", 2021)[6]. In addition, The social media users in India have reached the mark of 448.0 million in January 2021.There is an increase of 21% (78 million) social media users from 2020 to 2021 in India .The total number of users on social media platforms represent 32.3% of Indian population by January 2021(Kemp, 2021)[7]. This tremendous penchant has revolutionized the manner of exchange of information. These sites offer opportunity to connect the organisation to talented potential candidates. The stimulating element is the fundamentals that the organisations use in recruitment still exist, however these technological avenues have merely formed a new and innovative dynamics. This advancement is not only restricted to the recruitment process but also the job-seeking process (Ahlawat, 2016)[8].

OBJECTIVE OF THE STUDY

Though the technology use is enormous, the various studies in this relevant field is limited and open to various interpretations as to the utilisation of such technology by organizations to screen and recruit potential employees. Consequently, one of the foremost objectives of this research is to frame a comprehensive snapshot of such varied interpretations which are explained by various academic stakeholders in context of research papers provided. The variations of social media incorporation in recruitment process are likely since it forms the portion of Electronic Human Resource Management which has different explanations subject to the perspective. This variation illustrates variability of conceptualisation which this paper aims to illuminate.

The research paper focuses on:
1. Varied conceptualizations pertaining to social media implication in e-recruitment that exist in literature
2. Those varied conceptualizations are explained

METHODOLOGY

The rapid technological advancement should not be a surprise to anyone. Consistently everyday new technology comes out with an improved version right on its end making previous technology redundant. In this constantly advancing environment, one must not expect technology to last long. In lieu of this constant change, this research paper aims at the recent development in recruitment model through social media. This paper focuses on past 5 years trend analysis in this field. A grounded theory methodology (GTM) is adopted to select and analysis the papers simultaneously. Grounded theory methodology encompasses encryption to recognize concepts, continuous comparative examination to enhance and distinguish theoretical sampling and conceptualizations to ascertain additional significant literature.

Figure A depicts an illustration representing the process of analysing the literature until conceptualizations of usage of social media in e-recruitment model were recognized, saturated and accomplished.

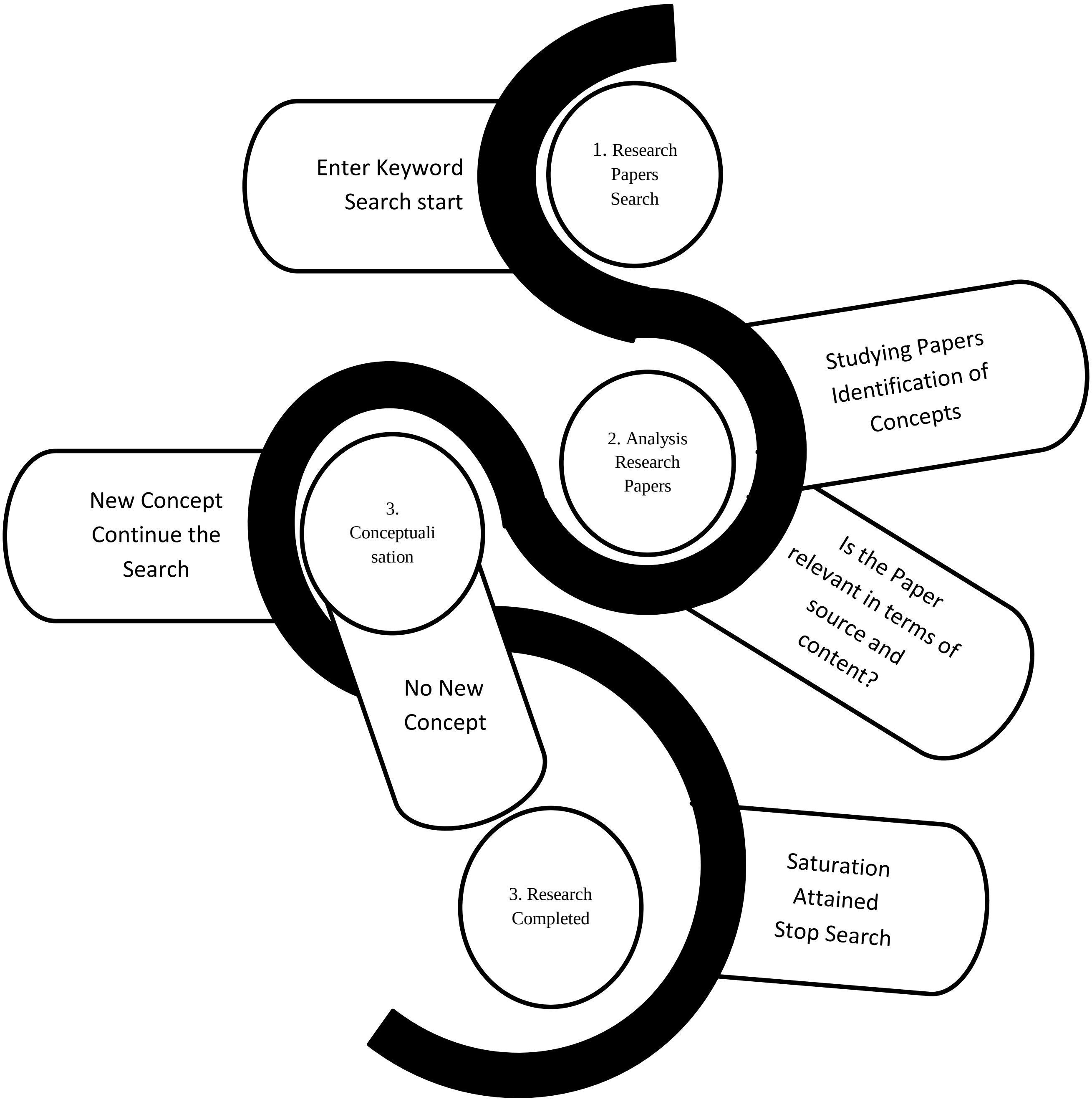

Figure 1: Illustration representing the process of analysing the literature

The Search strategy

Web search engine Google Scholar and Sopus are used to search for all the papers that are specific to this paper objective electronically using keywords synonymic with the word social media hiring.

The formulation of search string format was modified when necessary to make it suitable with the search requirements of various online databases. The keywords in search string eventually used were:

Social Media OR Social Hiring OR Social Recruitment AND Online Recruitment OR E Recruitment OR Electronic Recruitment OR Internet Recruitment OR Online Recruitment OR Web Recruitment AND Social Media OR Social Networking Sites OR Facebook OR Twitter OR Linkedin.

A supplementary search was aimed to include any possible works that might have been excluded. Next level filtration stage, papers were being filtered for relevancy criteria based on titles and abstracts. The search process delivered 16000 papers published in the period 2017-2021 in various sources; however all of them did not qualify as suitable for the review.

Selection of an appropriate sample

Papers selected for analysis are representative sample of all papers published on social media recruitment. The representative sample was feasible and viable to attain the objective of this paper. The sample was selected after critical scrutiny so that conceptualisation of emerging trend got impregnated and completed. The saturation is defined as a point where no additional data can develop a modification in concepts. The sample comprised of 30 research papers that can explain the notions of application of social media in the recruitment process.

Theoretical Articles Sampling

The papers included in the study required to be a sample taken from all the papers on application of social media in recruitment process that were pertinent to the conceptualizations that were being developed. The new conceptualizations helped determine which articles to include in the sample in the following articles. Up till all the conceptualizations were saturated and finished, theoretical sampling was done. Eventually, the number of research articles used to determine conceptualizations relating to research theme was counted.

Analysis Process

Analysis of the papers extracted was performed with continuous mapping of concepts in order to connect the relationships and further develop the uniform notion. This structure strategy aimed at emerging notions which further created new possibilities and probabilities of next level papers selection. Each sample paper was viewed in the purview of essence of social media usage in recruitment process. Moreover, the key indicators of complete analysed paper brought into view the emerging notions.

CONCEPTUALIZATIONS: SOCIAL MEDIA (SNSS) IMPLICATION IN EMPLOYEES' RECRUITMENT/HIRING PROCESS

Social media implication in employees' recruitment/hiring process has been conceptualized into six categories identified from scope of literature, namely: Social Media incorporation in Recruitment/Hiring as a Competent Technological Aid, Social Media incorporation in Recruitment/Hiring as Moral Compass, Social Media incorporation in Recruitment/Hiring as a Disguise Information Tool, Social Media incorporation in Recruitment/Hiring as Talent Search rather than a Screener Tool, Social Media incorporation in Recruitment/Hiring as an Auxiliary Tool, Social Media incorporation in Recruitment/Hiring as an Employer Branding Tool. Though a combination of conceptualisations were present in many papers, one or two new conceptualisations arose in various studies.

Table 1: represented the conceptualizations recognised and further being elucidated in various sub-sections.

S.NO	CONCEPTUALIZATION	DESCRIPTION	RESEARCH PAPERS
A	Social Media incorporation in Recruitment/Hiring as a Competent Technological Aid	Social media applicability in recruitment/hiring process is viewed as an efficient tool in terms of cost and time saving efficiency.	18,19, 12
B	Social Media incorporation in Recruitment/Hiring as Moral Compass	Set of objectives and values of organisation mark the boundary of ethical and unethical issues associated with social media incorporation in recruitment/hiring process.	9,12
C	Social Media incorporation in Recruitment/Hiring as a Disguise Information Tool	Social media majorly comprises of information not related to work and usage of such means for considering recruitment decisions will provide defective and incomplete information of personality and termed as an invasion in individuals' privacy.	9,12,17
D	Social Media incorporation in Recruitment/Hiring as Talent Search rather than a Screener Tool	Social media is a destination for a large, diverse pool of potential candidates and provide a good opportunity for recruiter to target specific active as well as passive candidates.	12,15,16,18,19
E	Social Media incorporation in Recruitment/Hiring as an Auxiliary Tool	Application of Social media is viewed as secondary tool that supplements the entire recruitment process.	12
F	Social Media incorporation in Recruitment/Hiring as an Employer Branding Tool	Enhancing the employers' visibility will open avenues to reach to more passive and potential candidates' pool.	12,16,17,18

Social Media incorporation in Recruitment/Hiring as a Competent Technological Aid

Application of technology and its advancement in any organisation tends to a path of numerous benefits, primarily termed as an efficient and effective tool. The conventional methods of recruitment involve advertisements in local newspaper or trade magazine or more recently on organisation websites which requires time and cost factor attached whereas recruitment through social media is cost and time effective.

Social Media incorporation in Recruitment/Hiring as Moral Compass

Social media is a medium of talent search and acquisition by providing required information that might pose potential ethical risks- information misuse and invasion in candidates' privacy (Hosain

& Liu, 2020)[9].

Every information available online is publicly accessible with no legal restrictions but some restrictions need to be in place for recruiters on moral grounds. Any sensitive and private information that is not related to job but still has ability to influence recruiters' decision to hire the individual raises ethical questions (S. Hazelton & Terhorst, 2015)[10]. Moreover, the lack of resources to verify the public profile credibility may put candidate at risk especially for those who are victims of identity theft. In most cases in regard to Identity theft_victim has no awareness that an altered profile exists in their name. ("Data breaches: Most victims unaware when shown evidence of multiple compromised accounts", 2021) [11]

Furthermore, employers should consider the consequences of searching candidates' backgrounds based on information available on social networking sites. This action may affect the overall morale of current workforce and its sanity (S. Hazelton & Terhorst, 2015)[10.]

Social Media incorporation in Recruitment/Hiring as a Disguise Information Tool

Recruiters usually perform comprehensive pre screening practices such as background checks on grounds of criminal activities. Performing a criminal record check of prospective employee maintains the decorum of the workplace and protects the organisation from any future risk of legal proceeding of hiring a person who is involved any illegal activities. Apart from performing background checks to scrutinize a person's criminal past, the organisations also validate the educational degrees, past employment, professional licenses and references provided by the candidate.

However, Organisations are evolving in terms of their methods and processes and one of the prominent add ons is swiftly including pre-employment screening through social media to their recruiting playbooks. With the free and convenient access of information online, a person, provided with a valid e-mail address and a full name, can rapidly able to get access to any community online (Hosain et al., 2020)[12] & (J. Ebnet, 2012)[13.]. This is an increase in social media application by Human Resource experts articulates their behaviour that intend to collect extensive candidates' details (Hosain et al., 2020)[12].

Recruiters collect a comprehensive summary of prospective employees after examining their social profiles, that would be unobtainable otherwise mainly information related to their behavioural outlooks- alcoholic consumption, political perspective or any racists remarks. Furthermore, this information which may be defective or provide a misguided idea is used to assess whether the candidate will be fit for the organisation workplace or not. Such information may comprise of a candidate's personal and sensitive contents (Hosain et al., 2020)[12.]

The truthfulness, relevance and validity of such online information are highly suspected as this could damage an individual's job prospects. Organisations making recruitment/hiring decision grounded on details available on these social networking platforms can display them as discriminatory practitioners as well (Jacobson, 2014)[14]. Moreover, these practices not only arise ethical concerns but also intrude in an individual's privacy.

Social Media incorporation in Recruitment/Hiring as Talent Search rather than a Screener Tool

Studies viewed usage of social media as medium for talent search because of the massive pool of diverse user base actively engaged on social media platforms. The studies also proved that social media provides a robust platform for recruiters to reach high quality and diverse candidates - both active as well as passive candidates (Koch et al., 2018)[15] & (Punn & Chaudhuri, 2021)[16] .It is observed by a study that organisations which is followed by large number of users on social media tends to receive high number of candidature (Koch et al., 2018)[15]. Many organisations instead of relying on job boards or any other external recruitment methods focus social media for reaching the youth population with specialized talent (Chaudhary et al., 2017)[17] & (Villeda & McCamey, 2019)[18].

Social Media incorporation in Recruitment/Hiring as an Auxiliary Tool

Implication of social media is conceptualised as auxiliary tool aimed at preliminary recruitment/hiring process instead of exclusively depending on that. The usage of social networking platforms must be restricted only to information related to job and verifying the details provided by candidates on CV or resume. The studies show that social media as a better tool if the organizations set certain parameters they wish to search for and choose the relevant social media network for the reference. This may illuminate outcomes of assessment process based on social media (Hosain et al., 2020)[12.]

Social Media incorporation in Recruitment/Hiring as an Employer Branding Tool

Earlier, Branding was associated only with marketing, is now becoming a significant characteristic of recruitment and social media has been the catalyst to build brand image of employer. There is a direct relationship between and likelihood of the job applicant to apply for the job and employer brand image. Hence, brand image of employer has crucial role while inviting prospective applications for the organization (Punn & Chaudhuri, 2021)[16].

The studies have conceptualised usage of social media platforms as an instrument intended for employer branding. The better visibility of an organisation, its prospects and the competitive advantages provide the increasing chances of the effective of recruitment process where high quality candidates can targeted. Better application of social media in recruitment, will be outcome of increasing recognition of need for employer branding in the business world today (Chaudhary et al., 2017)[17]. These social media networks are largely used by organizations to exhibit as good employer image that helps to attract the best talented candidates by building cognizance in job-seekers mind (Chaudhary et al., 2017)[17].

INVOLVEMENT AND INFERENCES OF CONCEPTUALIZATIONS OF SOCIAL MEDIA NETWORKING PLATFORMS IMPLICATION PERTINENT TO EMPLOYEES' RECRUITMENT/HIRING PROCESS

Involvement in the study

The paper represented the recruitment scope through social media by elucidating the multiplicity in understanding. This representation was prepared by recognizing six conceptualizations of social media implication in employees' recruitment/hiring process and further tagging them as: Social Media incorporation in Recruitment/Hiring as a Competent Technological Aid, Social Media incorporation in Recruitment/Hiring as Moral Compass, Social Media incorporation in Recruitment/Hiring as a Disguise Information Tool, Social Media incorporation in Recruitment/Hiring as Talent Search rather than a Screener Tool, Social Media incorporation in Recruitment/Hiring as an Auxiliary Tool, Social Media incorporation in Recruitment/Hiring as an Employer Branding Tool. These conceptualizations will increase the chance to enhance the productivity of the practitioners by letting researchers to have more emphasis in this research area.

Inferences of social media networking platforms implication pertinent to employees' Recruitment/Hiring Process Conceptualizations

These conceptualizations of social networking platforms implication relevant to employees' recruitment/hiring process staunch from attaching a tag to the supposed stakeholders' notions and place it to academic pursuit. This research of identification, description and explanation will be a pathway for standardization providing a common understanding of concepts of considering social media in recruitment process.

Inferences for Practice

These conceptualisation sets foundation on which practitioners should emphasis while in practice and attempt to strive forward in well-defined path. The Labelled and well defined conceptualizations can provide substitute notion that practitioners can assume subject to their needs.

LIMITATION OF STUDY

Several limitation of current study provide a scope for future research. The research provided an overarching view of social media but the continuous changing landscape of social media makes it difficult to generalize the findings of research studies over a longer period of time.

The second study limitation is lack of standardization in the use of social media in the recruitment process by various organisations, making it difficult to compare and generalize the findings of different research studies.

Overall, these limitations highlight the need for ongoing research and development in the use of social media in the recruitment process to ensure that it is used in an ethical, effective, and fair manner.

FUTURE OF RESEARCH

The future of research in this area will likely focus on further understanding of the advancement in technology and other algorithms impacting social media application on the recruitment process and how it can be used effectively.

One area of interest is the potential for social media to enhance diversity and inclusion in the hiring process. Research could focus on understanding the impact of using social media to identify diverse candidates and reducing biases in the recruitment process.

Another area of research could be the development of new tools and techniques to evaluate the fit of candidates based on their social media presence which increase the scope of algorithm biasness. The area will likely focus on understanding and mitigating the impact of algorithmic bias on the hiring process.

CONCLUSION

The technological advancement has certainly transformed the means of communication and social media has touched every nook and corner of the globe. The new trend of incorporating social media in recruitment process has been prevalent in the corporate world equally among both the parties (Employer and the job applicants) to achieve their objective- employers to attract the highly qualified candidates and job applicants to be hired by best company. However, both parties involved in this process should respect the ethical boundaries and be consistent with the law and regulations. Social media has majorly components that are not related to work and dependencies wholly on these components for recruitment decisions would not be fair. So, the organisation must understand that the social media is complementary in lieu of substituting conventional recruitment process. The successful implementation of social media supplementing to traditional recruitment process will enable the organization to gain and sustain competitive advantage. Nevertheless, looking at the contemporary realism, the number of participants (employers and job applicants) joining this new trend at tremendously fast pace, this call for deeper understandings in the explanatory evaluation of restrictions of each party involved in the hiring process. This paper in lines with the need of present reality elucidates the conceptualisations of varied aspects of social media hiring that sets bounds for the future researchers and practitioners.

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A META-ANALYSIS ON CORRELATES OF EMPLOYEE ENGAGEMENT

Timsi Bhatia[1]* & Ajay Kumar Singh[2]

Drawing on 44372 samples from 57 studies, the authors use meta-analytical techniques to assess the extent to which employee engagement is related to some of the constructs like Burnout, Cynicism, Mental health, Emotional Exhaustion and Psychological strain and Negative health. It was found that a) Engagement is negatively related to all the above correlates, b) the correlation is moderate with the highest negative correlation observed for Cynicism. These findings suggest that engagement lies at the opposite end of the continuum when it comes to these correlates. Therefore, doubts about the distinctiveness of these variables cannot be considered as pure speculation.

Keywords: Engagement; Burnout; Strain; Psychological Health; Depression

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INTRODUCTION

Employee Engagement has been the topic of academic pursuit for a long time now. In post Liberalization, Privatization and Globalization era, there were major changes in Indian Economy like restructuring, increased competition, technological innovations, access to open markets. Indian Economy soon realized that to stand the test of time, major changes in macro as well as micro HRM were required. Thus, Infrastructure, technology, access to capital, are no more the only tools to face competitive pressures, what is required is competent and organized employees who have the ability to create, re-create, innovate, and the potentiality to bring competitive edge to the organizations. This is only possible if the employees are engaged, enabled and have the energy to sustain competitive edge in the market place (Bakker & Schaufeli 2008).

"The term employee engagement refers to an individual's involvement and satisfaction with as well as enthusiasm for work" (Harter et al., 2002, p. 269). Work engagement is defined as a positive, fulfilling, work-related psychological state that stems from the combination of three interrelated dimensions, namely vigor, dedication, and absorption (Schaufeli & Bakker, 2004). There have been numerous definitions of employee engagement, many of them being old wine in new bottles (Macey and Schneider, 2008). Macey and Schneider (2008) proposed an all-inclusive umbrella term that encompasses three types of engagement viz., trait engagement, state engagement and behavioral engagement., each of which entails various conceptualizations; e.g., proactive personality (trait engagement), involvement (state engagement), and organizational citizenship behavior (behavioral engagement).

Over the last two decades, a substantial body of research has focussed on the construct of "Employee Engagement", however the issues related to its conceptualisation still remain unsolved. There has been an ongoing debate over the distinctiveness of engagement and burnout. Many argue that burnout and engagement are two opposing forces (Maslach et al., 2008), while the alternate view is that burnout and engagement are distinct constructs with different nomological networks (Cole et al., 2012; Goering et al., 2017). Previous meta-analysis. This debate continues today and hence, this meta-analysis was conducted to delve deeper into the construct of employee engagement theoretically and empirically.

Burnout is usually defined as a syndrome of exhaustion, cynicism, and lack of professional efficacy (Maslach et al., 2008). Exhaustion and cynicism are regarded as the "core components" of burnout (Schaufeli and Taris, 2005). Work engagement is defined as a positive, fulfilling, work-related state of mind characterised by vigour, dedication, and absorption (Schaufeli et al., 2002). Vigour and dedication are considered the core dimensions of work engagement (Schaufeli and Bakker, 2004). The continuum that is spanned by vigour and exhaustion has been labelled "energy", whereas the continuum that is spanned by dedication and cynicism has been labelled "identification" (Gonza´lez-Roma´ et al., 2006).

Previous meta-analysis on Burnout and engagement by Cole et al., (2012) revealed that Burnout and engagement are not distinct constructs, they infact are overlapping and there is evidence of conceptual alignment between them. Further, Goering et al., (2016), in their meta-analytic study on burnout and engagement observed that burnout and engagement had distinct nomological networks. Burnout operates through the health impairment process of the JD-R model, while engagement concentrates on the motivational process of the JD-R model, thus establishing them as distinct constructs in support of Schaufeli and Bakker's (2004) distinct states conceptualization. The alternate view contends that burnout and engagement are opposite ends of a common continuum. The three dimensions of the Maslach Burnout Inventory (MBI) i.e., emotional exhaustion, cynicism and inefficacy measure both engagement and burnout **(**Maslach and Leiter

(1997, 2008)).

Thus, the current study aims to make following important contributions to the existing research. Firstly, this is the first and latest meta-analysis to our knowledge that explores the correlates of employee engagement. Secondly, this study would help to identify whether the relationship amongst the constructs is homogeneous or heterogenous and if there are any moderators. Thirdly, this study would help the employers understand the relation between engagement and burnout and devise interventions to mitigate burnout in employees and foster employee engagement.

LITERATURE REVIEW

A plethora of research has evidenced that employee engagement is a critical component of organizational strategy, invariably very important both from individual and organization's perspective. In a recent study of 41 multinational organizations by Tower Watson 2019, it was found that "those with high engagement levels had 2% to 4% improvement in operating margin and net profit margin, whereas those with low engagement showed a decline of about 1.5% to 2%." Thus, having engaged employees gives companies real competitive advantage, difficult to imitate and replicate. However, engagement is important for organizations in a "steady state", whereas in the VUCA (Volatile Uncertain Complex Ambiguous) world with fluctuating economic trends, just focusing on engagement leads to inefficiency.

Kahn (1990), introduced the construct of employee engagement as the "harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). Schaufeli, Salanova, González-Romá, and Bakker (2002) defined engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 74). Macey and Schneider (2008a) defined engagement as "passion, enthusiasm, focused effort, and energy" (p. 4). Rich et al 2010 defined Engagement as "the simultaneous employment and expression of a person's "preferred self" in task behaviors that promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active, full role performances (Kahn, 1990, p. 700). Based on the concept of Kahn, which revolves around the three psychological conditions (i.e., meaningfulness, safety, and availability) that explains why employee chooses to engage or disengage himself at the workplace. Shuck, Adelson, and Reio (2017) conceptualized employee engagement as "an active, work-related positive psychological state operationalized by the intensity and direction of cognitive, emotional, and behavioral energy" (p. 2). This focus on an individual's state-level engagement is consistent with Schaufeli and his colleagues' definition of work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli, Salanova, González-Romá, & Bakker, 2002. Christian et al. (2011) argued that although operational definitions of "engagement" are often inconsistent across studies, a common conceptualization of work engagement is that it connotes "high levels of personal investment in the work tasks performed on a job" (p. 89). Later Henry Young et al 2018 conceptualize energy as the currency of employee engagement.

As previously mentioned, while Kahn's (1990) initial conceptualization of engagement stressed one's role (i.e., one's attitudinal and motivational facets), the concept of state-level work engagement defined by Schaufeli and his colleagues highlights the organizational context (environmental aspects) as a stable resource that can influence employees' daily work engagement (Schaufeli & Bakker, 2010). In line with this notion of employees' state-level work engagement, Bakker and Demerouti (2007, 2008) and Demerouti, Bakker, Nachreiner, and Schaufeli (2001) have suggested and advanced the JD-R model as a heuristic framework to explain organizational processes of employee engagement.

Notably, the research coalesced into one common theory underlying engagement conceptualizations as a positive, “energic” component, regardless of the trait, state, or behavioral labels applied to the constructs (Macey & Schneider, 2008a, pp. 12, 14, 21). Although there are many theoretical conceptualizations and definitions of engagement (e.g., May, Gilson, & Harter, 2004; Rich et al., 2010; Shirom, 2003), we adopt the perspective of Christian et al. (2011) that they all involve a common theme, which is a “relatively enduring state of mind referring to the simultaneous investment of personal energies in the experience or performance of work” (p. 95). Hence, our study adopts the personal energy perspective as a meta-theoretical approach to employee engagement, in which employee engagement involves the active management and investment of energy towards the work role.

Correlates of Employee Engagement

Figure 1 includes a category of variables (like Mathieu and Zajac (1990)) known as correlates, which is related to engagement but there is a lack of evidence on the causal precedence. Burnout, emotional exhaustion, cynicism, psychological strain, CWB, depression and organizational identification are some of the correlates identified from the extant literature. Undoubtedly over time there is some amount of reciprocal causation between engagement and many of these variables, however there is no consensus on establishing it as a predictor or a consequent.

Burnout and Employee Engagement

Maslach and Leiter (1997, 2008) contend that burnout and engagement are opposite ends of a common continuum. The three dimensions of the Maslach Burnout Inventory (MBI) i.e., emotional exhaustion, cynicism and inefficacy measure both engagement and burnout. When individuals experience burnout, energy turns into emotional exhaustion, which is characterized by feelings of physical fatigue, and worn out; Involvement turns into cynicism, characterized by pessimistic, negative, callous attitude towards others and finally, efficacy turns into inefficacy, characterized by feelings on incompetence and personal failure (Maslach & Leiter, 1997). On this basis Maslach, Jackson, and Leiter (1996) defined engagement as an energetic state in which employees are both dedicated to excellent performance and confident in their effectiveness

The alternative view considers work engagement as an independent, distinct concept that is negatively related to burnout. Consequently, work engagement is defined and operationalized in its own right as “a positive, fulfilling, work related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, González-Romá, & Bakker, 2002b, p. 74). That is, in engagement, fulfillment exists in contrast to the voids of life that leave people feeling empty as in burnout. They argue that engagement and burnout are independent states, rather than being perfectly complimentary. On this basis, Schaufeli, Salanova, et al. (2002: 74) defined engagement as a persistent and positive affective-cognitive state of mind that is characterized by the dimensions of vigor, dedication, and absorption, and they constructed the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003) to assess these three dimensions. Goering et al., 2016, in their meta-analytic study on burnout and engagement observed that burnout and engagement had distinct nomological networks. Burnout operates through the health impairment process of the JD-R model, while engagement concentrates on the motivational process of the JD-R model, thus establishing them as distinct constructs in support of Schaufeli and Bakker’s (2004) distinct states conceptualization**.** In addition, the strategies to reduce burnout are different as those to increase engagement. We, therefore expect a negative inter-individual correlation between engagement and burnout, as reported previously (e.g. Schaufeli et al., 2008; Demerouti et al., 2001; Crawford et al, 2010; Cole et al., 2012). Furthermore, the health impairment process is where sustained effort to cope with chronic job demands leads to erosion of health and energy, thus leading to undesirable job outcomes like psychological strain, depression, CWB, psychological distress. In line with this strain pathway of JD-R model, we expect negative correlations between engagement and these variables, responding to the calls of Cole et al., 2012 need for studies that more fully consider this differentiated JD-R model

Based on the above opposing views by leading proponents of employee engagement, it seems unlikely that an individual can feel engaged and emotionally exhausted at the same time. This reasoning provides a basis for the present meta-analysis on whether these constructs are two opposing forces or distinct psychological states.

Given the numerous attempts to examine the relationship between engagement and burnout constructs, this was an important starting point for a meta-analysis of the engagement literature.

Emotional Exhaustion and Employee Engagement

Emotional exhaustion, is characterized by feelings of being emotionally overextended and worn out with work. When exhausted, individuals feel physically fatigued, used up, and unable to unwind and recover. Cynicism (alternatively known as depersonalization) refers to negative, callous, or excessively distant attitudes toward co-workers and one’s job. It is marked by heightened pessimism and a tendency to abandon tasks. As operationalized by Maslach and Leiter, when individuals experience burnout, energy turns into emotional exhaustion, involvement turns into cynicism, and efficacy turns into inefficacy (Maslach & Leiter, 1997).

Han et al., 2019 in their survey on university teachers in mainland China indicated that challenge job demands and job resources were related to the well-being indicators including emotional exhaustion and engagement with positive relation with engagement and negative with emotional exhaustion thus pointing to the opposite action of these predictors on engagement and burnout.

Depression and Employee Engagement

Idris et al., 2011 in their study on in Malaysian population found that people in negative affective-cognitive states (Anger and Depression) are likely to report lower job performance and less work engagement. It was found that job demands mediated the relation between PSC and anger and depression. It was also demonstrated how job demands are negatively associated with engagement, due to the effect of anger and depression. Findings from previous studies also indicate negative emotions are associated with counterproductive work behaviour (Sliter et al., 2014; Spector et al., 2006). The purpose of present study is therefore to explore the relation between Depression and Engagement and also to understand any causality that exists between the two constructs.

Psychological strain, Negative health and Employee Engagement

Excessive stress can cause fatigue, negative health, depression and can disengage employees in an organization (Simon et al., 2015). However, there is no consensus on establishing it as a predictor or consequent. In line with the Dollard–Miller frustration-aggression hypothesis (J. Dollard, Doob, Miller, Mowrer, & Sears, 1939), Dollard et al., 2011 demonstrated that higher job demands lead to built up frustration and that leads to anger and depression. According to conservation of resources (COR) approach, loss of personal resources may also occur which may lead to decline in engagement levels. Hence, this meta-analysis is done to understand the nexus between engagement and Negative health.

Cynicism and Employee Engagement

Guglielmi et al, (2012) in their study on how individual aspects predict engagement and burnout, demonstrated that in line with Social Cognitive Theory of Bandura (1997), personal resources like self-efficacy lead to higher engagement and lesser Cynicism. In the similar vein, Taris et al., (2015) found that quantitative job demands (work overload) partially mediated the relationship between workaholism and exhaustion, a core dimension of cynicism, and also seem to have small correlation with employee engagement because workload is considered a challenge demand. Job resources on one hand promote employee engagement and other hand decrease the level of burnout in employees. On the other hand, job demands lead to energy depletion and also have differing relation with engagement. Challenge demands have positive relationship with engagement, whereas hindrance demands have negative relationship with engagement (Crawford et al., 2010). Therefore, the purpose of this study is to identify the relationship between Cynicism and employee engagement because both have similar antecedents.

Based on the previous literature, the hypothesis is:

Hypothesis 1: **Engagement is related to its correlates viz. psychological strain, depression, emotional exhaustion, cynicism, and burnout. However, this hypothesis is exploratory so no directions are hypothesized.**

Figure 1: Model of Employee Engagement and Correlates based on literature review

METHOD

Meta-Analysis

Meta-analysis (MA), a term coined by Glass (1976), is “the statistical analysis of a large collection of individual studies for the purpose of integrating, synthesizing and comparing the research findings" (p. 3) (e.g., Viswesvaran & Ones, 1995; Schmidt, 1992; Shadish, 1996). It is used primarily to address questions not inferable from any individual study. The use of meta-analysis has grown dramatically in all the fields such as psychology, economy, education, medicine, and criminology (Borenstein, Hedges, Higgins, & Rothstein, 2010; Schmidt & Hunter, 2014). The present study has therefore used the meta-analysis procedures outlined by Hunter et al. (1982). The Hunter et al. technique first considers the extent to which differences among study outcomes are attributable to statistical artifacts. Specifically; the influences of measurement unreliability and sampling error on correlations between engagement and its antecedents are removed to establish population estimates of their "true" relationships, and to determine whether sufficient variance between studies remains to warrant a search for moderator variables.

We therefore use the following procedures to synthesize studies on employee engagement from 2009 through 2019.

DATA COLLECTION

The authors conducted an exhaustive search for primary studies on Employee Engagement from 2009 through 2019, using wide ranging key words such as 'Engagement' independently and in conjunction with other key words such as Burnout, Cynicism, Strain, Emotional Exhaustion, Negative Health, Depression utilizing electronic databases such as Scopus, Emerald, Sage Full-Text Collections, and Google Scholar. These databases collectively cover a wide range of Management and Applied Psychology journals such as Journal of Vocational Behavior, Human Relations, Journal of Applied Psychology, Personality and Individual Differences, Human resource management journal, International Journal of Hospitality Management. Each article was scrutinized to check its suitability for inclusion including in our meta-analysis. Finally, we examined all prior meta-analytic reviews on Engagement and Correlates. The initial search yielded 649 published studies and over 16 unpublished articles.

Inclusion Criteria

We established the following criteria for the selection of studies. First, only those empirical studies that reported correlation coefficients or provided the required information to compute effect sizes, were selected. Second, the studies had to report effect sizes only at the individual level. Effect sizes reporting engagement at the team level were excluded. Third, studies that measured constructs at the employee level were selected. Finally, since the quality of meta-analysis depends on the quality of studies it synthesizes, only the journals in the category A*, A, B and C in the ABDC list were selected for inclusion. When multiple effect sizes for a given sample were reported, a sample size weighted average was computed to generate a single data point for each construct (Hunter & Schmidt, 2004). Initial search resulted in 649 primary studies, of which 65 studies met all the criteria and were included in meta-analysis. Results for variables with three or more correlations (Mathieu et al., 1990) were reported. Thus, the present study includes meta-analysis of 65 published studies between 5 variables and engagement, drawn from distinct samples.

A list of all the studies included in the meta-analysis (along with effect sizes, reliability information, and design characteristics) is provided in Appendix A.

Data Coding and Decision rules

We coded the multiple characteristics of 65 empirical studies, including the sample size, the independent and dependent variables, the observed/reported effect size, and the reliability of each measure. To facilitate the coding process, we referred to the coding schemes used by Salgado (2003) and Zimmerman (2008) throughout the process. Studies were double-coded by the first and second authors with an agreement. All disagreements were resolved collaboratively

1. **Correlation as an effect size measure:**
   We have used r as the effect size measure because the estimates of variance using the Fisher's z transformation are less accurate than the estimates based on the correlation coefficient (Schmidt et al., 1980; Hunter et al., 1996; Schmidt, Hunter, & Pearlman, 1982; Schmidt et al., 1988).

2. **Assumption of Independence**:
   When multiple effect sizes for a given sample were reported, a sample size weighted average was computed to generate a single data point for each construct (Hunter & Schmidt, 2004.

3. **Correction for Study Artifacts:**
   Although meta-analyses can be performed with uncorrected correlations as well, correcting both measurement error and sampling error is important for obtaining accurate estimates of construct-level relationships in the population (Hunter & Schmidt, 2004; Cook et al., 1992, pp. 315–316, 325–328)

4. **Credibility and Confidence Intervals:**
   The Credibility and confidence intervals were calculated for all the 5 variables (correlates of employee engagement). The confidence intervals estimate variability in the estimated mean correlation, whereas credibility intervals estimate variability of the individual correlations in the population of studies (Judge et al., 2002; Whitener 1990). The effect sizes were considered heterogeneous if the credibility interval includes 0 and the confidence interval is thus generated after deciding that moderators are in operation and that the studies come from heterogeneous subpopulations using the following formula provided by Schmidt et al.1988, p. 668) (Hunter and Schmidt 1990, chap. 9; Whitener 1990, p. 316). An 80% credibility interval excluding zero indicates that more than 90% of the individual correlations in the population will exclude zero While a 95% confidence interval excluding zero indicates that if we repeatedly sampled the population of correlations, 97.5% or more of the associated confidence intervals would exclude zero (the other 2.5% of the average correlations would lie in the other tail of the distribution) (Judge, Ilies, Bono, & Gerhardt, 2002).

5. **Coding of Correlates**

   We included a correlate in our analyses if it was reported as a correlate in at least three primary studies (Mathieu et al., 1990; LePine et al., 2002; Cole et al., 2012). We used this criterion because a meta-analysis of two studies will only likely be informative if the studies are direct (or 'statistical') replications of one another (Valentine et al. (2010: 241); Cole et al., 2012). Strict inclusive criteria resulted in identification of 5 correlates including burnout, emotional exhaustion, cynicism, psychological strain and depression.

Meta-Analytical Procedures

The researchers followed the random-effects meta-analytical procedure described by Hunter and Schmidt (1990) to cumulate the effect sizes reported in the primary studies and estimate the fully corrected population correlations. Random effects models allow for the possibility that population parameters (ρ) vary from study to study whereas fixed effects models assume a priori that exactly the same (ρ) value underlies all studies in the meta-analysis (i.e., SDρ = 0) (Hunter & Schmidt, 1990a; Hunter, Schmidt, & Jackson, 1982). This procedure helps to determine the extent to which differences in correlation across studies can be attributed to statistical artifacts (Sampling Error and Error of Measurement).

First, we calculated a weighted mean of the raw correlation coefficient (Hunter & Schmidt, 1990; Schmidt & Hunter, 2014). Second, all primary study effect sizes were individually corrected for unreliability in the predictor and criterion variables to account for variability in the reliability estimates. When this information was unavailable, the average reliability associated with the specific construct was imputed into the correction formula, as done in previous meta-analyses (e.g., Balkundi & Harrison, 2006, Marinova et al 2015). In cases where the reliability information was available for composite measures, we used the Mosier (1943) Reliability formula to calculate reliability estimates for the composite measures.. Third, we calculated the individually corrected weighted mean correlation (rc). Fourth, Since the total variation across studies is composed of true variation in the population and variation due to statistical artifacts such as sampling error, reliability and range restriction. By accounting for variation due to statistical artifacts, we can obtain a better measure of the true variability around the population correlation. We, thus computed the variance of the individually corrected weighted mean correlation after removing the variances due to sampling error and measurement unreliability. We also computed the standard deviation of p from the computed variance.

The population parameters to be estimated included the mean corrected correlation (p), the standard deviation of the estimated correlation (SDp) and the standard error of the true correlation (SEp) The estimated mean correlation and standard error can be used to calculate a confidence interval around the mean correlation. If the 95% confidence interval around the mean correlation does not include zero, it can be concluded that a true relationship between work experience and job performance exists in the population (Finkelstein, Burke, & Raju, in press).

Fifth, to evaluate the homogeneity/heterogeneity of effect sizes across studies, we computed 80% credibility intervals (CV) around the estimate of the fully corrected population correlations.

RESULTS AND FINDINGS

Summary of meta-analysis of the 5 correlates is presented in Table 1.

Meta-analysis on Correlates of Employee Engagement

Table 1 reports the meta-analytical results for the correlations between employee engagement and its 5 correlates. All the correlates including Burnout (p=-0.52), its two components Emotional exhaustion (p=-0.39) and Cynicism (p=-0.5), along with Psychological strain (p=-0.31) and Depression (p= -0.39) exhibit negative correlation with engagement. Both 80% CV and 95% CI for all the correlates exclude 0, exhibiting robust and statistically significant relationships with Engagement. Thus hypothesis 1 is fully supported.

Constructs	k	N	r	p	SDp	95% CI:LL	95% CI: UL	80% CV:LL	80% CV:UL	% Explained by artifacts	Q	I square	
Burnout	8	4510	-0.4	-0.52	0.188	-0.64	-0.38	-0.76	-0.28	4.015	216.049**	96.76	Heterogeneous
Emotional exhaustion	33	26352	-0.33	-0.39	0.153	-0.46	-0.34	-0.59	-0.19	5.093	816.344**	96.082	Heterogeneous
Cynicism	15	8659	-0.41	-0.5	0.156	-0.58	-0.42	-0.70	-0.30	6.38	277.44**	94.954	Heterogeneous
Psychological strain and Negative health	15	12956	-0.3	-0.31	0.159	-0.4	-0.22	-0.51	-0.11	4.64	311.677**	95.508	Heterogeneous
Depression	3	828	-0.37	-0.39	0	-0.45	-0.33	-0.39	-0.39	100	0.708	0	Homogeneous

(Note. k is the number of correlations used for the meta-analysis; N is the combined sample size for the meta-analysis; r is the sample-weighted correlation; p is the estimated true correlation corrected for sampling error and unreliability; 95% CI is the 95% confidence interval around the estimated true correlation; 80% CV is the 80% credibility interval around the estimated true correlation; % variance explained is the percentage of variance explained by statistical artifacts; Q is the homogeneity statistic; I square is the true/real difference among studies. *p≤.05, **p≤.001.)

DISCUSSION AND ROADMAP FOR FUTURE RESEARCH

The overall purpose of the meta-analysis was to understand and investigate how engagement is different/related to the similar constructs. These constructs were termed as correlates because based on the previous literature, there was some association between them, however, the causal precedence was not known.

The purpose was to add to the growing body of literature on engagement and burnout (Cole et al., 2012; Goering et al., 2017). The authors used meta-analytic techniques to quantitatively summarize that burnout and employee engagement are opposite ends of the continuum (supporting Maslach et al., 2008). The negative relationship between the two is supported by the extant literature (Goering et al., 2019; Moeller et al., 2018; McGregor et al., 2016; Peng Lin et al., 2017; Zhang et al., 2018). In a study in the nursing community, Shemueli et al., (2015) found that Burnout fully mediated the relationship between work overload and turnover intention, whereas work engagement partially mediated the relationship between social support and turnover intention. Work overload was found to be positively related to burnout and negatively related to employee engagement. Thus, supporting our hypothesis that there is negative relationship between burnout and engagement.

The results from this study suggest that the factors that promote employee engagement i.e., job characteristics and personality also have an impact on the burnout of employees. For example, strategies used to enhance engagement (eg., job demands like time pressure and Job responsibility; personal resources like positive affect, proactive personality) also impact burnout. Based on the findings, we conclude that burnout and engagement display polar opposite pattern of relationships. For instance, burnout can be lowered by increasing job resources (Demerouti et al., 2010), personal resources (Ferreira et al., 2019), which will enhance employee engagement. Likewise, higher job demands lead to higher burnout and lesser engagement levels. Thus, common antecedents have opposing effects on burnout and engagement, thus supporting our hypothesis that there is a negative relationship amongst the two and both lie at the opposite ends of the continuum (Maslach et al., 2008). This an important for HR managers to devise interventions at organization levels to handle burnout and foster engagement in employees.
Through careful management of job characteristics and personality, organizations can foster employee engagement, reduce turnover and improve employee commitment.

Thus, the burnout and engagement are the two psychosocial characteristics with similar antecedents (with opposing effects) and thus it can be concluded that burnout is the positive antipode to employee engagement (Maslach et al., 2008).

Further, the heterogeneity of variables is studied and it was found that since the percentage of variance attributable to the artefacts was less than 60% for all the variables (except Depression) (Mathieu & Zajac, 1990), moderation analysis is required which is the limitation of current study. Further research is required to examine the predictors and consequents of both separately.

LIMITATIONS

Despite our best efforts, the studies were selected on the basis of a predetermined criteria. Other databases may reveal additional relevant studies on employee engagement. Second, the included studies used self-reported questionnaires which can affect the trustworthiness of the results due to common method variance (Podsakoff, MacKenzie, & Podsakoff, 2012). Further studies should be conducted to delve deeper in the above relationships to understand the role of moderators if any.

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Appendix: Summary of all the studies included in Meta-analysis

S.NO	Study	N	Country	Study Design	Engagement Scale	Engagement Reliability	Effect Size	Correlation value and Reliability(r/alpha)
1	Demerouti et al 2010	528	South Africa	Cross sectional	UWES	0.87	5	JA (0.37/0.78); WL (0.06/0.77); CY (-0.49/0.73); EE (-0.42/0.82); MH (0.42/0.94)
2	Taris et al 2011; Sample 1	625	China	Longitudinal	UWES	0.9	13	WL (0.004/0.75); ED (-0.015/0.7); PD (-0.15/0.85); IP (-0.133/0.79); JA (0.207/0.68); CWS (0.114/0.66); LD (0.35/0.73); TI (0.36/0.73); SS (0.26/0.87); CY (-0.27/0.79); EE (-0.18/0.8); IT (0.24/0.73); Org Comm (0.43/0.81)
3	Taris et al 2011; Sample 2	761	China	Longitudinal	UWES	0.94	13	WL (-0.093/0.82); ED (-0.092/0.78); PD (-0.235/0.88); IP (-0.13/0.83); JA (0.235/0.75); CWS (0.31/0.82); LD (0.41/0.81); TI (0.34/0.8); SS (0.17/0.94); CY (-0.44/0.88); EE (-0.32/0.87); IT (0.25/0.69); Org comm (0.55/0.87)
4	Mostert et al 2011	528	South Africa	Cross sectional	UWES	0.88	6	WL (0.112/0.78); JA (0.352/0.78); CWS (0.36/0.72); SS (0.4/0.86); CY (-0.59/0.73); EE (-0.43/0.82)
5	Guglielmi et al 2012	224	Italy	Cross sectional	UWES	0.88	7	SE (0.56/0.83); LD (0.70/0.83); JA (0.449/0.77); WFC (-0.28/0.88); DP (-0.013/0.86); CY (-0.45/0.73); EE (-0.48/0.86)
6	Chambel et al 2017; Sample 1	368	Portugal	Cross sectional	UWES	0.94	4	JA (0.48/0.83); SS (0.4/0.84); CY (-0.56/0.82); EE (-0.46/0.93)
7	Chambel et al 2017; Sample 2	368	Portugal	Cross sectional	UWES	0.95	4	JA (0.53/0.86); SS (0.4/0.87); CY (-0.64/0.87); EE (-0.6/0.92)
8	Barkhuizen et al 2013	595	South Africa	Cross sectional	UWES	0.72	7	OP (0.46/0.75); CR (0.39/0.81); SS (0.35/0.87); CY (-0.46/0,86); PS (-0.42/0.84); EE (-0.49/0.7); Org comm (0.55/0.8)
9	Taris et al 2016; Sample 1	172	China	Longitudinal	UWES	0.94	10	WL (0.06/0.88); ED (-0.05/0.88); IP (-0.32/0.89); WFC (-0.28/0.97); LD (0.5/0.89); FB (0.31/0.88); JA (0.35/0.76); DM (0.3/0.9); CY (-0.64/0.9); EE (-0.49/0.87)
10	Taris et al 2016; Sample 2	273	China	Longitudinal	UWES	0.96	10	WL (0.24/0.91); ED (-0.006/0.91); IP (-0.24/0.93); WFC (-0.22/0.97); LD (0.4/0.9); FB (0.4/0.91); JA (0.35/0.83); DM (0.4/0.93); CY (-0.05/0.91); EE (-0.012/0.9)
11	Taris et al 2013; Sample 1	625	China	Cross sectional	UWES	0.9	10	WL (0.004/0.75); ED (-0.015/0.7); CD (0.216/0.7); PD (-0.15/0.8); IP (-0.133/0.79); JA (0.21/0.68); TI (0.32/0.73); LD (0.35/0.73); CY (-0.31/0.92); EE (-0.18/0.8)
12	Taris et al 2013; Sample 2	1381	China	Cross sectional	UWES	0.94	10	WL (0.159/0.82); ED (-0.162/0.83); CD (-0.0133/0.88); PD (-0.26/0.9); IP (-0.18/0.84); JA (0.21/0.75); TI (0.27/0.82); LD (0.37/0.82); CY (-0.27/0.79); EE (-0.38/0.87)
13	Taris et al 2016; Sample 1	463	China	Cross sectional	UWES	0.93	10	WL (0.15/0.86); CD (0.2/0.76); PD (0.046/0.74); CWS (0.35/0.62); SS (0.37/0.87); JA (0.102/0.81); DM (0.21/0.84); CY (-0.15/0.7); EE (-0.08/0.67); Org comm (0.58/0.69)
14	Taris et al 2016; Sample 2	261	China	Cross sectional	UWES	0.9	10	WL (0.25/0.78); CD (0.03/0.87); PD (-0.23/0.88); CWS (0.18/0.84); SS (0.093/0.8); JA (0.195/0.79); DM (0.32/0.92); CY (-0.31/0.92); EE (-0.36/0.9); Org comm (0.44/0.67)
15	Ramos et al 2015	292	Switzerland	Cross sectional	UWES	0.96	6	WL (-0.14/0.85); CWS (0.41/0.8); JA (0.41/0.94); TS (0.68/0.83); PS (-0.38/0.9); MH (0.57/0.91)
16	Hansez et al 2010	3506	Belgium	Cross sectional	Barbier, Peters, & Hansez, 2009	0.82	5	WL (0.13/0.8); RA (-0.32/0.72); JA (0.42/0.75); SS (0.33/0.79); PS (-0.23/0.86)
17	Brough P et al 2018	2481	australia	Longitudinal with same sample	UWES	0.96	3	ED (-0.21/0.93); CD (0.07/0.86); PS (-0.42/0.91)
18	Minseo Kim et al 2018	336	US	Longitidinal with single sample	UWES	0.95	6	WL (0.06/0.9); IP (-0.22/0.86); RC (-0.38/0.91); Psy Emp (0.72/0.91); PS (-0.44/0.93); ERP (0.57/0.87)
19	Baer et al 2014	509	US	Cross sectional	UWES	0.95	6	JA (0.38/0.86); WL (0.12/0.82); EX (0.33/0.81); WFC (-0.12/0.8); PS (-0.27/0.78); BU (-0.46/0.89)
20	Biggs et al 2014	1623	Australia	Longitudinal	UWES	0.96	4	JA (0.42/0.96); SS (0.39/0.95); PS (-0.39/0.9); IT (-0.45/0.89)
21	Frieder et al 2013; Sample 1	194	US	Cross sectional	saks et al	0.88	6	NA (-0.13/0.9); PA (0.38/0.88); OP (-0.07/0.88); PS (0.07/0.82); JS (0.31/0.87); IRP (0.37/0.74)
22	Frieder et al 2013; Sample 2	217	US	Cross sectional	saks et al	0.9	6	NA (-0.17/0.85); PA (0.32/0.91); OP (-0.11/0.9); PS (0.17/0.89); JS (0.33/0.85); IRP (0.39/0.74)
23	Frieder et al 2013; Sample 3	450	US	Cross sectional	saks et al	0.84	6	NA (-0.15/0.92); PA (0.34/0.85); OP (-0.13/0.86); PS (0.16/0.90; JS (0.24/0.83); IRP (0.36/0.74)
24	Hinz et al 2015	407	Germany	Longitudinal with same sample	UWES	0.98	6	TP (-0.25/0.88); JA (0.52/0.96); PS (-0.45/0.94); Dep (-0.37/0.96); WB (0.5/0.91); IRP (0.385/0.86)
25	Brough et al 2013; Sample 1	823	Australia	longitudinal	UWES	0.92	4	WL (0.079/0.89); CWS (0.32/0.93); SS (0.31/0.95); PS (-0.37/0.88)
26	Brough et al 2013; Sample 2	786	China	longitudinal	UWES	0.9	4	WL (0.2/0.75); CWS (0.27/0.87); SS (0.36/0.87); PS (-0.18/0.8)
27	Garrick et al 2014	488	Australia	Diary	UWES	0.89	2	CL (0.43/0.86); PS (-0.32/0.94)
28	Dollard et al 2010	249	australia	Longitudinal	UWES	0.92	6	JA (0.42/0.77); VA (0.46/0.83); WL (-0.19/0.81); ED (-0.22/0.86); PS (-0.45/0.87); EE (-0.4/0.85)
29	Idris et al 2011	269	Malayasia	Cross sectional	UWES	0.93	7	ED (-0.224/0.82); RC (-0.183/0.83); CWS (0.287/0.87); SS (0.21/0.92); CL (0.43/0.92); Dep (-0.34/0.9); IRP (0.34/0.78)
30	Sliiter et al 2014	152	US	Cross sectional	UWES	0.89	4	WL 9-0.18/0.92); PD (0.15/0.88); Dep (-0.4/0.9); LS (0.31/0.9)
31	Moeller et al 2018	1085	US	Cross sectional	Rich, Lepine, and Crawford scale	0.92	9	WL (0.21/0.7); CD (0.54/0.85); SS (0.47/0.95); RW (0.45/0.83); SE (0.57/0.85); NA (-0.19/0.83); PA (0.47/0.92); BU (-0.13/0.96); IT (-0.07/0.87)
32	Shemueli et al 2015; Sample 1	316	Uruguay	cross sectional	UWES	0.93	4	WL (-0.25/0.82); CWS (0.41/0.84); BU (-0.53/0.95); IT (-0.31/0.92)
33	Shemueli et al 2015; sample 2	502	Spain	cross sectional	UWES	0.92	4	WL (-0.25/0.85); CWS (0.35/0.82); BU (-0.54/0.96); IT (-0.23/0.94)
34	Hyounae et al 2015	232	Korea	Cross sectional	UWES	0.9	2	Psy Cap (0.57/0.89); BU (-0.69/0.91)
35	Zhang et al 2013	207	China	Cross sectional	Demerouti et al. (2003)	0.75	3	HP (0.52/0.92); EE (-0.05/0.85); JS (0.43/0.83)
36	Zhang et al 2018	593	China	Cross sectional	UWES	0.92	2	CSE (0.46/0.78); BU (-0.31/0.91)
37	Peng Lin et al 2017	223	China	Cross sectional	UWES	0.889	4	EL (0.441/0.927); BU (-0.54/0.933); IT (-0.579/0.877); SE (0.54/0.91)
38	McGregor et al 2016	1050	australia	Cross sectional	UWES	0.85	4	TP (-0.2/0.84); WFC (-0.2/0.77); SS (0.48/0.67); BU (-0.49/0.89)
39	Han et al . 2019	2758	China	Cross sectional	UWES	0.92	3	WL (0.3/0.86); CWS (0.306/0.91); EE (-0.28/0.94)
40	Bosmans et al 2019	2274	Netherland	Longitudinal	UWES	0.94	4	ED (0.081/0.79; CD (0.25/0.89); NC (-0.3/0.89); EE (-0.37/0.91)
41	Ferreira at al 2019	219	Portugal	Diary	UWES	0.895	3	CS (0.11/0.725); NA (-0.26/0.86); EE (-0.48/0.85)
42	Elisabeth M. Riedl et al. 2019	560	Germany	Diary	UWES	0.92	5	WL (-0.15/0.81); ED (-0.23/0.81); CWS (0.56/0.81); JA (0.13/0.82); EE (-0.45/0.85)
43	van den Tooren et al 2016	3392	Netherland	Cross sectional	UWES	0.94	3	ED (0.15/0.81); CD (0.33/0.9); EE (-0.33/0.85)
44	Demerouti et al 2010	528	South Africa	Cross sectional	UWES	0.87	5	JA (0.37/0.78); WL (0.06/0.77); CY (-0.49/0.73); EE (-0.42/0.82); MH (0.42/0.94)
45	Van den Broeck et al 2010; Sample 1	261	Netherland	Cross sectional	UWES	0.93	6	ED (-0.22/0.78); WL (0.17/0.64); CD (0.2/0.81); JA (0.31/0.72); CWS (0.32/0.72); EE (-0.41/0.91)
46	Van den Broeck et al 2010; Sample 2	244	Netherland	Cross sectional	UWES	0.93	6	ED (-0.3/0.86); WL (0.13/0.64); CD (0.2/0.73); JA (0.35/0.7); CWS (0.3/0.7); EE (-0.51/0.87)
47	Van den Broeck et al 2011	4009	Netherland	Cross sectional	UWES	0.92	5	WL (0.12/0.82); ED (0.04/0.87); JA (0.3/0.86); LD (0.54/0.92); EE (-0.3/0.89)
48	Dollard et al 2010	249	australia	Longitudinal	UWES	0.92	6	JA (0.42/0.77); VA (0.46/0.83); WL (-0.19/0.81); ED (-0.22/0.86); PS (-0.45/0.87); EE (-0.4/0.85)
49	Pedro et al 2014	1487	Portugal	Cross sectional	UWES	0.87	3	CWS (0.26/0.83); SS (0.25/0.83); CY (-0.37/0.76); EE (-0.3/0.89)
50	Meng Long huo et al 2018	371	China	Cross sectional	UWES	0.92	5	CD (0.523/0.72); SS (0.452/0.91); TR (0.557/0.86) DM (0.497/0.9); EE (-0.425/0.77)
51	Afsharian et al 2018	21	australia	Cross sectional	UWES	0.9	6	Psy D (-0.37/0.86); ED (-0.28/0.88); JA (0.23/0.68); VA (0.2/0.73); POS (0.31/0.87); EE (-0.38/0.91)
52	Chambel et al 2017; Sample 1	368	Portugal	Cross sectional	UWES	0.94	4	JA (0.48/0.83); SS (0.4/0.84); CY (-0.56/0.82); EE (-0.46/0.93)
53	Chambel et al 2017; Sample 2	368	Portugal	Cross sectional	UWES	0.95	4	JA (0.53/0.86); SS (0.4/0.87); CY (-0.64/0.87); EE (-0.6/0.92)
54	Akkermans et al 2013	305	Netherland	Cross sectional	UWES	0.92	6	CWS (0.37/0.83); JA (0.3/0.79); LD (0.46/0.8); WL (0.13/0.82); ED (-0.05/0.79); PD (0.02/0.88); EE (0.22/0.88)
55	Cullinane Sarah et al 2014	200	Ireland	Cross sectional	UWES	0.92	4	FB (0.233/0.79); TR (0.223/0.81); CD (0.062/0.81); EE (-0.538/0.78)
56	Mastenbroek et al 2014	860	Netherland	Cross sectional	UWES	0.94	10	WL (-0.068/0.84); PD (-0.153/0.81); JA (0.41/0.91); FB (0.407/0.85); CWS (0.267/0.87); PP (0.42/0.79); SE (0.394/0.77); EE (-0.18/0.92); ERP (0.3/0.89); IRP (0.353/0.77)
57	Dicke et al 2017	1736	Germany	longitudinal	UWES	0.86	3	SE (0.48/0.86); EE (-0.6/0.77); Org comm (0.53/0.77)
	SUM	**44372**					**323**	

(Correlates: CY= Cynicism; EE= Emotional exhaustion; BU= Burnout; PS= Psychological strain; Dep= Depression)

SHARE REPURCHASE: ANALYZING RESEARCH TRENDS USING BIBLIOMETRIC ANALYSIS

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Share repurchase has been a prominent feature of corporates worldwide. It's often believed that firms can improve their stock performance by repurchasing their own shares. A fixed percentage of the company's own shares are acquired from the current shareholders through this approach. It decreases the company's current share count while creating value for the shareholders. Therefore, the repurchase of shares is seen by businesses as an essential tool for financial restructuring, particularly when there is an overcapitalization. The present study is an attempt to use a bibliometric analysis of the body of literature to outline the recent trends in share repurchase research and to highlight the avenues for new research fields. The study examined the research trend in the field of share repurchase with the help of bibliometric data extracted from the Scopus database. The findings of the study demonstrate that the primary topics in the share repurchase papers are capital structure, dividend policy, and financial flexibility. Furthermore, it shows how the researchers relate the concept of share repurchase to these topics. New factors that contribute to corporations' decisions to repurchase shares have also been identified.

Keywords: *Share repurchase, Share buyback, Investments, Bibliometric analysis*

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INTRODUCTION

A corporation with excess capital has two possibilities for allocating its additional funds. The first option is to keep the funds available and invest them for the company's future growth. Returning the money owned by the company's owners is the second option. It may happen either through the payment of dividends or by the buyback of shares. When the idea of joint stock firms was first developed, paying dividends was regarded as the only way to return the surplus to shareholders. However, Modigliani and Miller in 1961 made the first empirical evidence that dividend payments have no impact on a company's value. Despite this, until 1980, the dividend payment remained the most popular form of return (Barclay & Smith, 1988).

In the early 1960s, the idea of share repurchases became a regular practice in the financial markets of western developed nations. It debuted in the United States in the late 1960s and gained popularity in the middle of the 1980s. The share repurchases had increased four times that of dividend payments. In the United States, the share repurchase rate increased from 13.2% of total dividends in 1980 to 113.2% in 2000 (Grullon & Michaely, 2000). In 1999, firms trading on the New York Stock Exchange made 1252 repurchase announcements worth approximately US$ 216 billion (Pettit, 2001).

For the first time in the US history, the repurchase costs in 1999–2000 were much more than the dividends. The second most developed nation outside of North America is the United Kingdom, where the idea of share repurchase was first introduced and accepted. In the UK, share buybacks began in the early 1980s and are still quite common today. Until about mid-1990, share buybacks in the other European nations were essentially non-existent because the governments of these nations either disallowed share buybacks or made them less profitable through stringent tax regulations. In 1998, share buybacks were legalised in France and Germany while some Asian countries also enabled share buybacks in the late 1990s.

After the Companies Act of 1956 provisions were adequately revised in 1999, SEBI (the Securities Exchange Board of India) in India allowed share buyback systems.

LITERATURE REVIEW

After conducting an extensive literature review on share repurchase, it has been found that most of the studies on share repurchases centred on the variables that prompted the repurchase activity and the financial implications both before and after the programme were implemented. The research papers and publications reviewed revealed that there has been significant research on share buyback in developed nations, particularly in the US capital markets. This is because the US corporations employ share repurchases more frequently than those in other nations.

The available research also implies that there may be a variety of reasons why the corporation engages in actions like share buybacks. The most important are changes in capital structure, signalling, and undervaluation. Thus, there was mixed empirical evidence regarding the motives behind the share repurchase activity. Analysing the effects of share repurchasing on the market price and operational performance of the companies is another crucial topic that has been widely examined. The existing literature depicted a positive price response of the market for firms announcing the buyback of shares through the open market. Thus, it can be observed that the majority of research on share repurchases focused on the goals of the activity as well as the financial effects of share repurchases both before and after the programme.

In this paper, an attempt has been made to conduct a bibliometric analysis to extend the traditional literature review into the systematic literature review. The systematic literature review is typically carried out using an iterative cycle of defining appropriate protocols, which involves conducting a keyword search, looking for relevant material, and performing the analysis (Lewis & White, 2009).

RESEARCH OBJECTIVES

The primary purpose of this study is to provide a 360-degree assessment of how research on share repurchase and buyback has progressed around the world. This study provides quantifiable data that would be beneficial for future research in this area.

The present study has the following specific objectives:

1. To recognize the most influential journals which publish papers on share repurchase.
2. To identify the top contributing authors and countries in the field of share repurchase studies and their collaboration.
3. To discover the most used keyword in the share repurchase papers.
4. To identify the past trends of the research on share repurchase and to discover the current theme on which researchers may give utmost importance.

RESEARCH METHODOLOGY

For the purpose of the bibliometric analysis in the present paper, the Scopus database was examined for the research publications on share repurchase. The Scopus database is the largest database of peer-reviewed articles, conference papers, and books. It offers all relevant details regarding the journals, articles, authors, affiliations, citations, etc. The following procedures have been adopted for the complete bibliometric analysis.

Selection of the technique for bibliometric analysis

A suitable technique has been chosen to achieve the study's goal. Performance analysis and science mapping are two sorts of approaches. The bibliometric data collected allows the review of the performance of various specific units using performance analysis. Science mapping will investigate the interactions and structural connections between numerous study components in the examination.

Data extraction and collection

It is imperative to select a database to find relevant data for the study. There are a lot of databases available for collecting bibliometric data, such as Web of Science, Scopus, Dimension, Lens, PubMed, etc. Scopus database has been used for collecting data on share repurchase and buyback research. Advanced search using the relevant keywords like “share repurchase” or “share buyback” was used to search for the study on Scopus databases. Studies that included these two search strings either in the title and/ or keywords and/or abstract were selected for the study.

The following search string has been used:

TITLE-ABS-KEY ("share repurchase" OR "share buyback") AND (EXCLUDE (PREFNAMEAUID , "Undefined#Undefined")) AND (LIMIT-TO (SUBJAREA , "ECON") OR LIMIT TO (SUBJAREA , "BUSI")) AND (EXCLUDE (DOCTYPE , "er") OR EXCLUDE (DOCTYPE , "le") OR EXCLUDE (DOCTYPE , "no")) AND (LIMIT-TO (LANGUAGE , "English"))

A total number of 600 publications starting from the year 1968 to 2022 have been finally selected for the study.

DATA ANALYSIS

As the data is large, the manual analysis would be complex. So, bibliometric analysis using the VOSviewer and Bibloshiny (R software) was conducted on these 600 studies. To do bibliometric analysis, the exported data should be a CSV file. The CSV data file has been downloaded from the Scopus database. Original research publications, review papers, and conference papers are all used in this study. To assure the review's quality, any duplications were extensively scrutinized. To ensure the quality and relevance of educational material included in the review process, the abstracts of the papers were rigorously verified for analysis. Each research report was then carefully examined at a later point. Only papers written in English are considered.

FINDINGS AND DISCUSSION

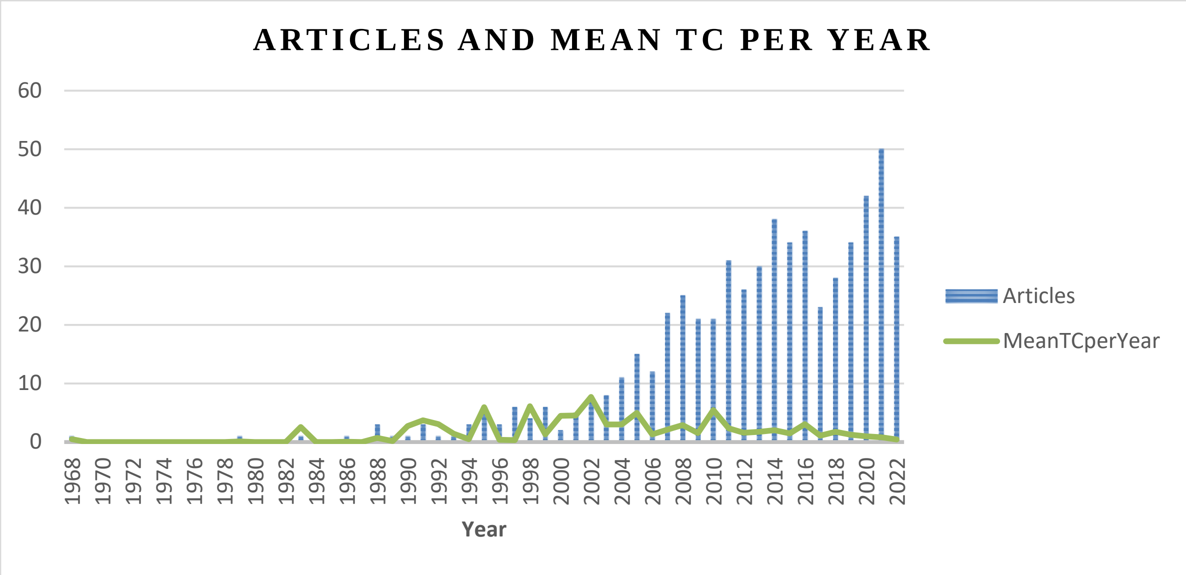
In this part, the findings from the bibliometric analysis performed on the 600 papers extracted for the research are discussed. The most important details of the retrieved data are tabulated in Table 1.

Table 8: Main Information of the Data Retrieved

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1968:2022
Sources (Journals, Books, etc)	228
Documents	600
Annual Growth Rate %	6.55
AUTHORS	
Authors	1059
Authors of single-authored docs	119
AUTHORS COLLABORATION	
Single-authored docs	134
Co-Authors per Doc	2.28
International co-authorships %	18.5
DOCUMENT TYPES	
Article	548
Book	2
book chapter	17
conference paper	11
Editorial	1
Review	18

Source: Retrieved from Biblioshiny R package

There were 600 publications overall from 228 sources. The period of the publication ranges from 1968 to 2022. The number of contributing authors is 1059, of which 119 are sole-authored publications. There are 548 articles, 11 conference papers, and 18 review papers besides 17 book chapters and 2 books. It is clear from Table 1 that the average number of citations per document is 25.84 and the annual growth rate of the publication is 6.55%.



Source: Self-compiled from Biblioshiny R package

Figure 3: Publications and Average Total Citations per Year

The annual number of publications and their average citation are depicted in Figure 1. It demonstrates that in 1968, Elton and Gruber published "The Effect of Share Buyback on the Value of the Firm," the first article on the subject of share repurchase. There were fewer than 10 papers published until 2003. Thereafter the number of publications increased at a faster rate and the maximum number of papers (n=50) were published in the year 2021. It may be because of the increasing prevalence and popularity of the topic of share repurchase around the globe. It can be further noticed from Figure 1 that more share repurchase articles are being published globally. The growing number of these publications has not been hindered, not even during the most recent pandemic. Figure 1 also displays that the papers between 1998 and 2000 have been cited more frequently than those from other years as the Mean Total Citations per year (MeanTCPerYear) is highest for these years.

Most Influential Source

There are 228 sources in total which include books and periodicals. The performance of the top ten sources on the basis of h,g,m index, and total citation has been depicted in Table 2.

Table 9: Top Ten Journals

Name of Journal	h Index	g Index	m Index	TC	Documents
JOURNAL OF FINANCIAL ECONOMICS	23	28	0.575	5294	28
JOURNAL OF CORPORATE FINANCE	19	31	0.731	998	7
JOURNAL OF BANKING AND FINANCE	13	22	0.464	518	41
JOURNAL OF FINANCIAL AND QUANTITATIVE ANALYSIS	13	18	0.228	615	8
REVIEW OF FINANCIAL STUDIES	8	8	0.533	677	18
JOURNAL OF FINANCE	7	7	0.28	1858	23
MANAGERIAL FINANCE	7	11	0.269	145	18
ACCOUNTING REVIEW	6	6	0.4	149	10
FINANCIAL MANAGEMENT	6	7	0.316	114	7
JOURNAL OF FINANCIAL RESEARCH	6	7	0.171	96	8

Source: Self-compiled from Biblioshiny R package

It is evident from Table 2 that the Journal of Financial Economics is the most influential source for share repurchase papers with an h index of 23 and the highest number of total citations i.e. 5294. This shows that authors rely extensively on the Journal of Financial Economics and consider its articles to be among the best in the field. According to the g index the Journal of Corporate Finance, which has the highest index value of 31, is the most influential journal for share repurchase publications. Since the h and g indices indicate the importance of the source, they do not consider the period. Hence the m indices are utilized instead. The m index shows the h index divided by the number of years since the initial publication. It is evident from the Table that the Journal of Corporate Finance has the most significant m index, making it the most effective source for share repurchase publications.

Further, it can be observed from Table 2 that the Journal of Financial Economics has the highest number of citations, that is, 5294 with 28 publications. In contrast, the Journal of Corporate Finance has 7 publications with a total of 998 citations. Journal of Finance includes only 23 publications, yet it has secured the second-largest number of citations (1858).

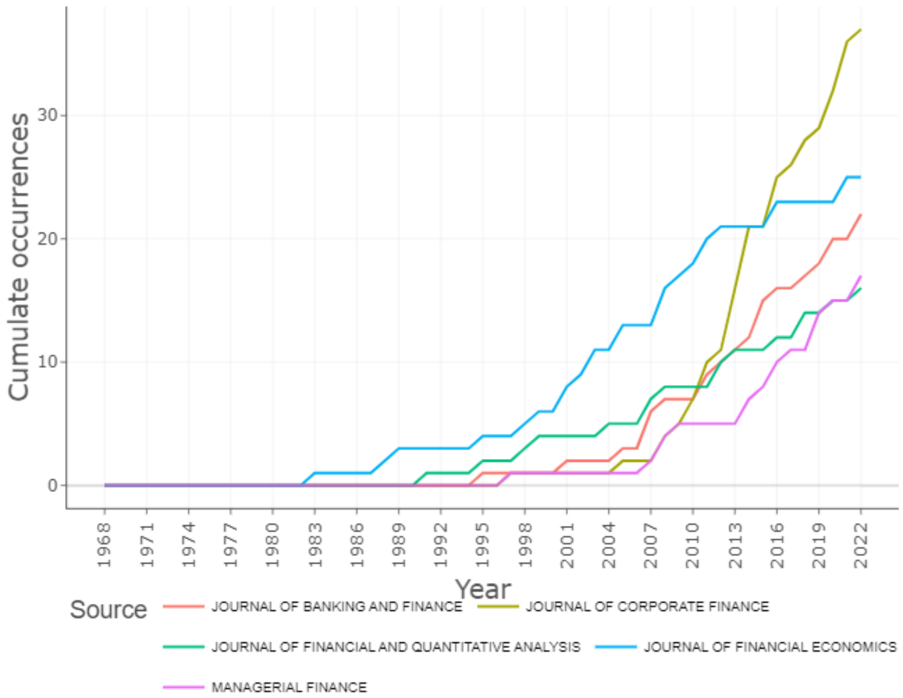


Figure 2: Publication in Top 5 Journals in Different Periods

Figure 2 displays the growth of the top 5 journals from 1968 to 2022. It demonstrates that the Managerial Finance Journal and the Journal of Financial Economics are the oldest sources for share repurchases publications. However, after the entry of the Journal of Financial Economics, it became the most desirable source for publication. The rise of published works began in 1983 and has not slowed down. Since 2013, publications in the Journal of Corporate Finance have significantly increased and it has emerged as a new source of publication.

Top Contributing Authors

Since 2017 till date, the publications on share repurchase have been rising. According to the analysis, there were 23 papers published in 2017, 28 in 2018, 34 in 2019, 42 in 2020, and 50 in 2021. This reflects that the authors consider share repurchase as a vast array of prospective research subjects.

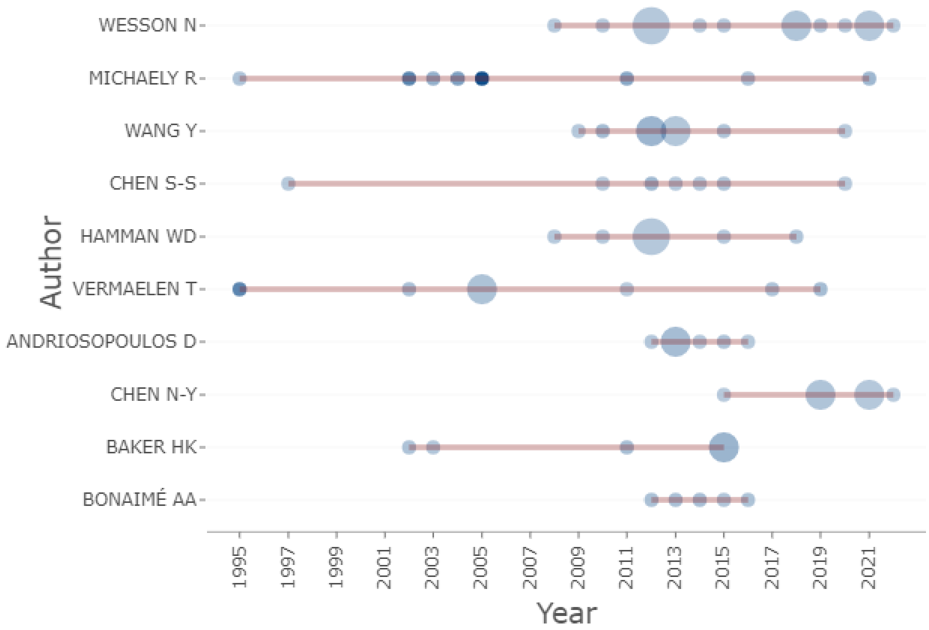


Figure 3: Publications by the top 10 authors between 1995 to 2021.

As shown in Figure 3, Wang, Y. started writing in 2009 and authored eight papers in total on share repurchase. Chen, S. S. has a long history of publications on the topic. He started in 1997 and authored seven papers on share repurchase by 2021. Similarly, Vermaelen, T. has also contributed a substantial amount of time in research from 1995 to 2019. Wesson, N., Wang, Y., and Hamman, W.D. did most of their publication on share repurchases in the years between 2011-2013. In contrast, Chen, N. Y. recently published his paper on share repurchases in 2021.

Most well-known authors published their work on share repurchases between 2011 and 2013. Therefore, the time frame of the year 2011-2013 may be considered as the research age for share repurchases. To discuss the co-authorship of 1059 authors, the authors with at least two publications were chosen. 193 authors matched the criteria. However, only fifteen authors make up the most related group.

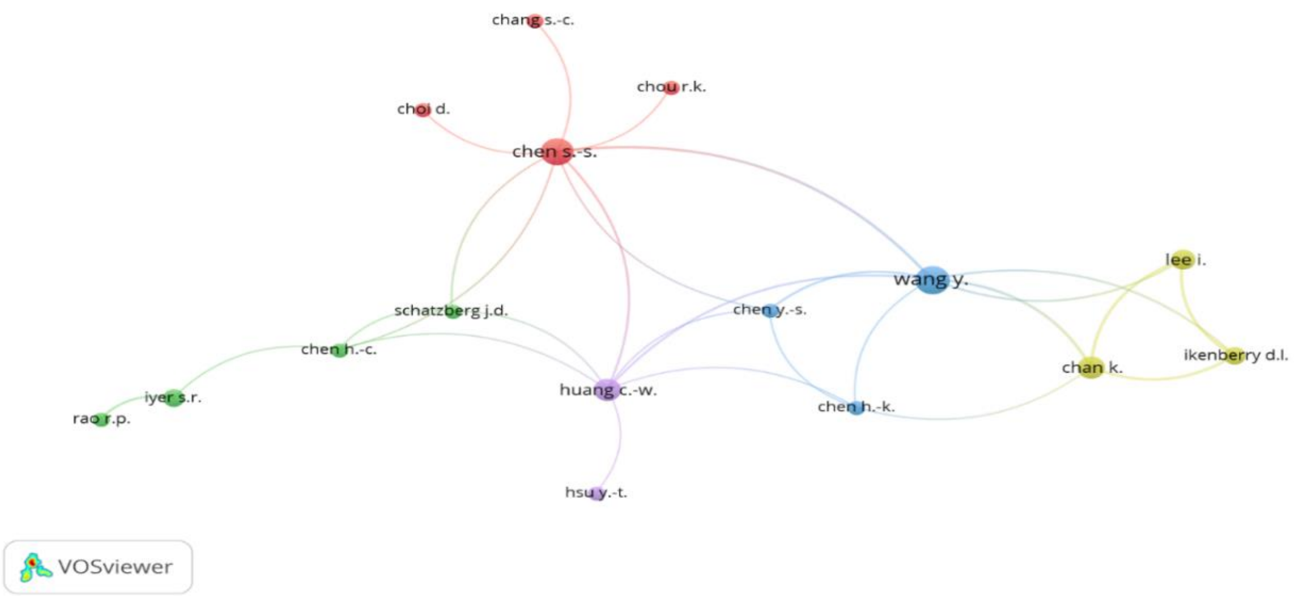


Figure 4: Co-authorship of authors

Figure 4 displays a co-authorship map with five clusters. Wang, Y. has eight publications with 7 other authors, giving a total link strength of 15, making him the author with the most vital links with other authors. Fewer writers appear to be connected with one another, indicating that they are less likely to work together on share repurchase-related research publications. This may be because of the reason that there are differences in the regulations governing the buyback or repurchase of shares in various countries.

Top Ten Influential Publications

Table 3 lists the top ten papers authored on share repurchase.

Table 10: Top 10 Documents- Publication Source, Publication Year, and Citations

Title	Authors	Source	Year	Total Citations
Payout policy in the 21st century	Brav A., Harvey C.R., Graham J.R, and Michaely R.	Journal of Financial Economics	2005	978
Market Underreaction to Open Market Share Repurchases	Ikenberry D., Lakonishok J. and Varmaelen T	Journal of Financial Economics	1995	835
Dividends, Share Repurchases, and The Substitution Hypothesis	Grullon G., and Michaely R.	Journal of Finance	2002	635
Actual Share Reacquisitions in Open Market Repurchase Programs	Stephens C.P. and Weisbach M.S.	Journal of Finance	1998	395
Corporate Payout Policy and Managerial Stock Incentives	Fenn G.W. and Liang N.	Journal of Financial Economics	2001	374
The Information Content of Share Repurchase Programs	Grullon G and Michaely R.	Journal of Finance	2004	350
Dissecting Anomalies with A Five-Factor Model	Fama E.F. and French K.R.	Review of Finance Studies	2016	344
The Relative Signaling Power of Dutch Auctions and Fixed Price Self-Tender Offer, and Open Market Share Repurchases	Comment R and Jarrell G.A.	Journal of Finance	1991	335
Self-Selection Models in Corporate Finance	Li K. and Prabhala M.R.	Handbook of Empirical Corporate Finance Set	2007	275
When a buyback isn't a buyback: open market repurchases and employee options	Kahle K.M.	Journal of Financial Economics	2002	266

Source: Self-compiled from Biblioshiny R package

The paper "Payout Policy in the 21st Century" by Brav A., Graham J.R., Harvey C.R., and Michaely R. published in 2005 in the Journal of Financial Economics has the highest number of citations 978 as shown in Table 3. The paper "Market Underreaction to Open Market Share Repurchases," published in the Journal of Financial Economics in 1995 by Ikenberry, D., Lakonishok, J., and Varmaelen, T., has the second highest number of citations which is 835. The paper "Dividends, Share Repurchases, and the Substitution Hypothesis" published in the Journal of Finance in 2002 by Grullon, G., and Michaely, R., has the third highest number of citations which is 635. Table 3 demonstrates that most of the citations (total of 2797) are from the Journal of Financial Economics, indicating that authors rely on this Journal. Journal of Finance is the second most popular source among authors with a total citation of 1715.

Amongst the top 10 papers, two publications on share repurchase were authored by Grullon, G., and Michely, R., in 2002 and 2004 respectively with a total citation of 635 and 350 both published in Journal of Finance. The authors investigate share repurchases in conjunction with market trends and operations and the company's share policy which includes dividends and other decisions.

Top Countries

The number of citations that various nations received in the share repurchase publications is depicted in Figure 5.

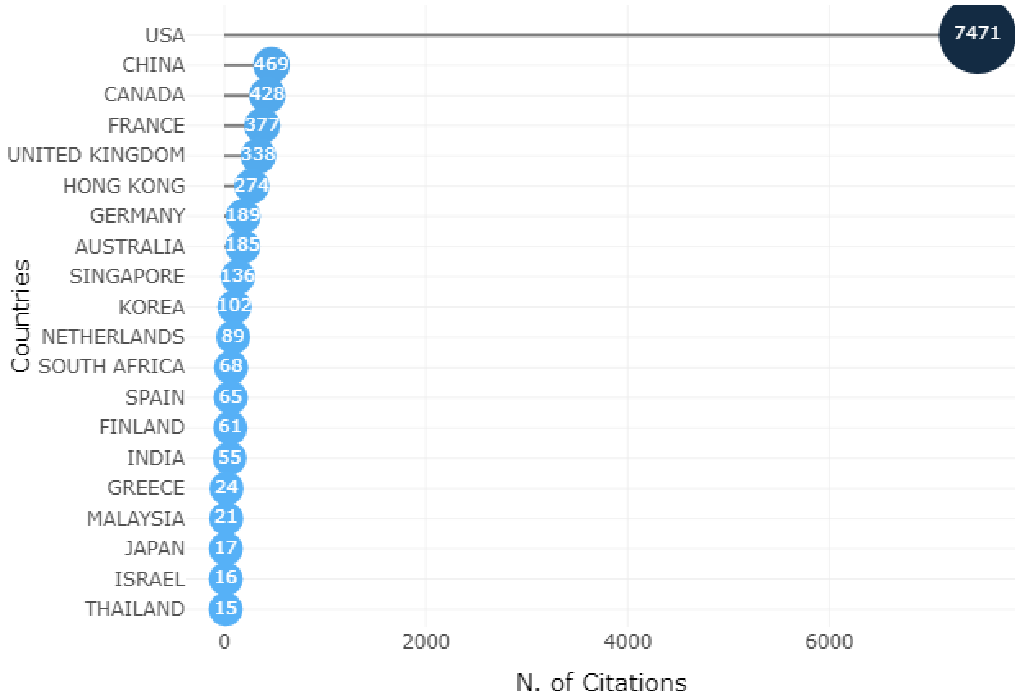


Figure 5: Top 20 Countries with the Highest number of Citations

According to the number of citations of share repurchase publications of different countries, the United States has the maximum number of citations, i.e., 7471, followed by China with 469 citations, Canada with 428 citations, France with 377 citations, the United Kingdom with 338 citations and Hong Kong with 274 citations. Using "country" as the analytical unit, the study investigated the worldwide distribution of share repurchase publications to determine the connection between countries. The minimum number of documents published by a country was set at 3, and out of the 68 countries, only 31 met the minimum requirement.

Figure 6: Co-authorship of Countries

The network map in Figure 6 shows 31 countries correlated in the literature on share repurchases. Seven clusters are formed with 71 links between countries and 171 total link strengths. According to the number of documents published by each country on share repurchase research, the United States has the maximum number of papers published, i.e., 266, followed by the United Kingdom with 56 documents, Taiwan with 54 documents, Australia, and China with 31 and 23 papers published respectively. According to total link strength, the United States has the maximum total link strength, i.e., 85, followed by the United Kingdom with 34 link strength, Canada with 24 link strength Taiwan with 18 link strength, South Korea with 18 link strength, and Australia with 15 link strength.

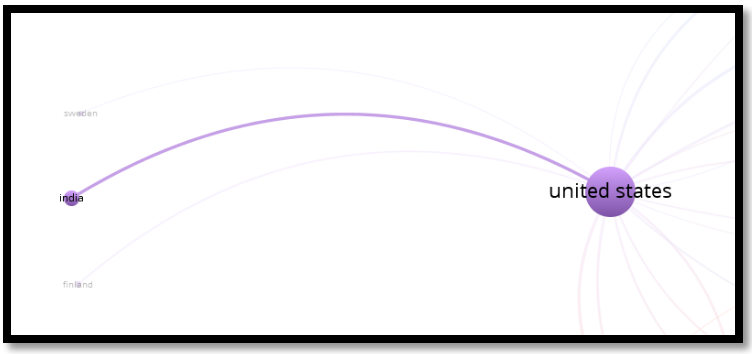


Figure 7: Indian Collaboration

As depicted in Figure 7, India has published 23 documents with 55 citations on the topic of share buyback. Compared to other countries, India is far behind on this front, having only one co-authored study on the topic with the United States. One possible reason may be that in India the concept of share buyback was introduced in 1999 almost after 20 years in other developed countries worldwide. However, India should put more emphasis on this field or research by collaborating with other nations to improve this number.

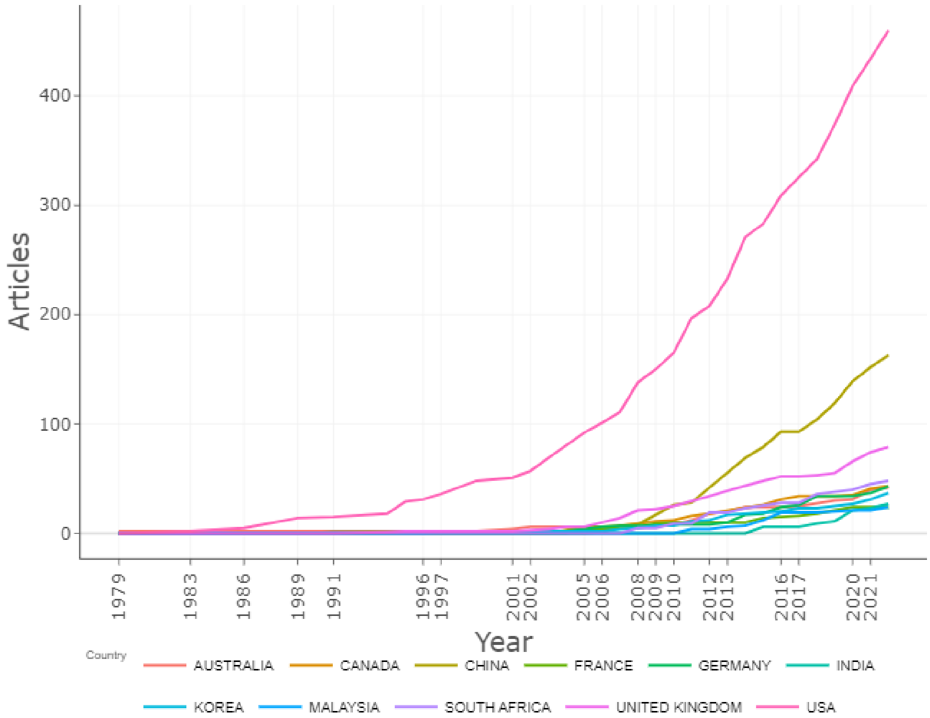


Figure 84: Publications by Various Countries in Different Periods

Figure 8 displays the number of papers published by various nations over time. The pink line in the figure indicates that the USA has unmatched growth in the publication of studies on share repurchase from 1986 to the present. China has shown the most significant rise in publications since 2008, yet it still falls short of the United States. The United Kingdom experienced modest growth between 2005 and 2021.

Analysis of Keywords

In order to examine the co-occurrence of keywords, a Bibliometric analysis was performed on the keywords identified in share repurchase documents within the data set. VOSviewer network map of keywords is shown in Figure 9.

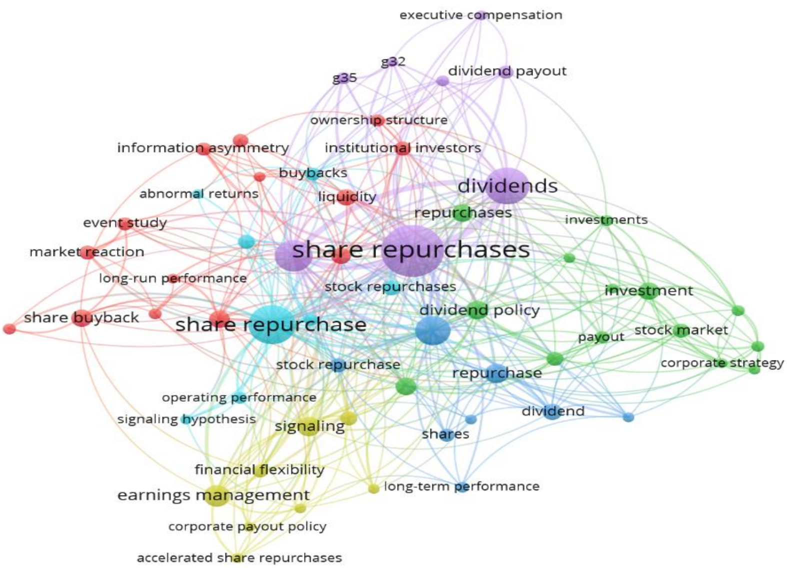


Figure 9: Co-occurrence of Keywords

The size of the nodes in the co-occurrence map indicates how frequently the word has appeared which aids in identifying the most commonly used words. The distance between the two phrases on the map depicts the frequency of co-occurrences of the two terms. The distance between two nodes decreases as the frequency of two words occurring together increases. It will be impossible to map out every keyword. Therefore, the keywords are filtered according to the criterion that there must be at least five occurrences of each keyword. 60 out of 1225 keywords fall within the acceptable range. These 60 keywords are grouped into 6 clusters as presented in Figure 9. It can be observed from the figure that share repurchase is the most popular keyword with 44 links and 154 total link strength with keywords like dividends and payout policy. Second most frequently used keyword is dividends with 31 links and total link strength of 108. Other important keywords are payout policy, corporate governance, signalling, etc. The emergence and development of the topic within the field of share repurchase has been discussed and explained later with the help of the theme matrix in Figure 12.

Trends on Share Repurchase Research

A trend is a topic or issue that is popular during a specific period; it can be researched alongside or with the topic. The trend in share repurchase research is shown in Figure 10.

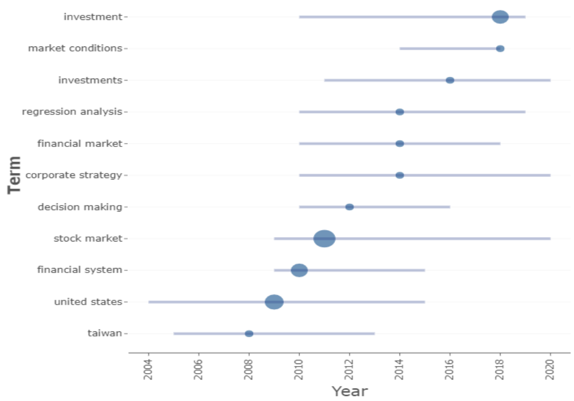


Figure 10: Historical Trends

From 2005 to 2020, as shown in Figure 10, academics have focused on investments as a study topic for share repurchases. This is because share repurchases are intrinsically linked to the stock market and the financial system.

To better understand the preferences of researchers over the period of time, the period from 1968 to the present has been divided into two-time frames, 1968-2014 and 2015-2022. The authors' emphasis on investments remained constant during both time frames. They view investments as a subject that is constantly expanding and has something fresh to offer. The divergence of the theme over both time frames is depicted in Figure 11.

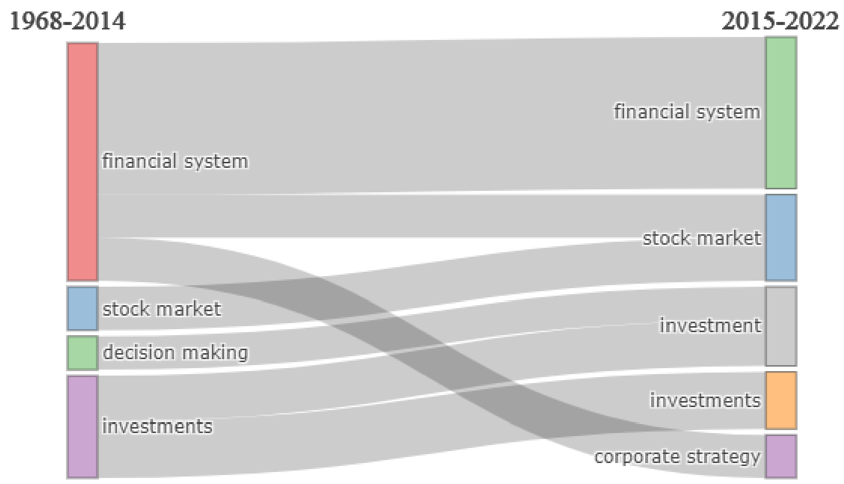


Figure 11: A Comparative Analysis of the Topic in Different Time Zone

In the past, authors have emphasized the financial system extensively; however, this emphasis has diminished in recent years. Authors now concentrate more on the stock market and corporate strategy than the financial system. Because of the broad breadth of the vertical tab, it is clear that the authors have also turned their attention from decision-making to investments. When researching on share repurchasing, the stock market, and company strategy are two of the most recent considerations for the authors.

Thematic Analysis

A strategic thematic map is generated in Biblioshiny R with the keywords which will help in analysing the topic development within the field. It will also assist in analysing emerging patterns and determining which areas of research require the most intensive study.

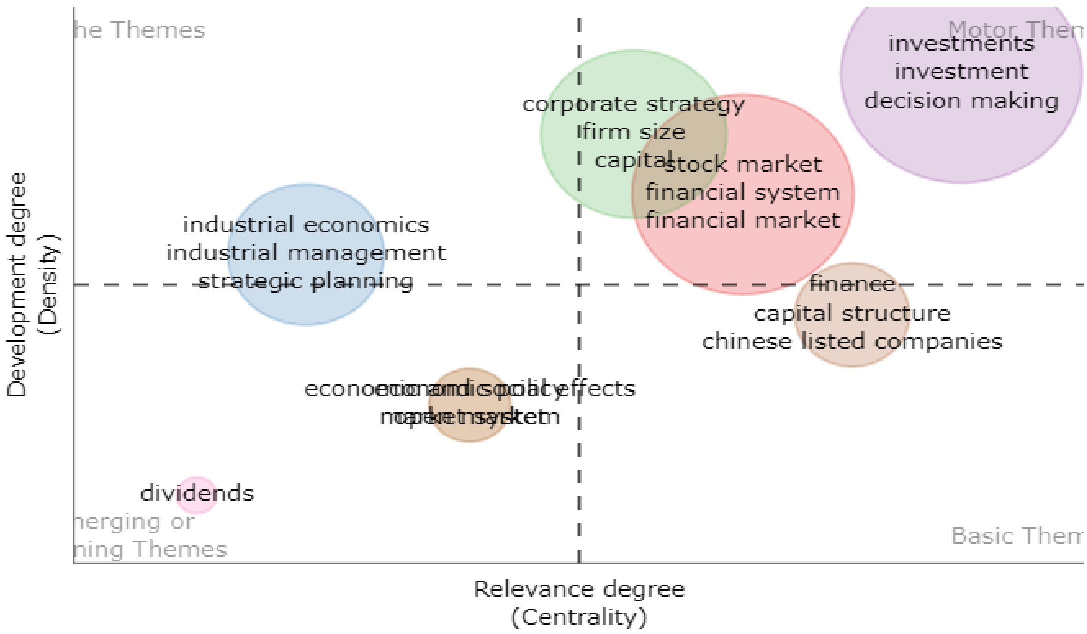


Figure 12: Theme Matrix

The four-quadrant Figure 12 illustrates several possible study topics for papers on share repurchases. The four categories are emerging theme, motor theme, niche theme, and basic theme. The basic theme is the theme that most researcher covers in their research. These are finance, capital structure, and listed companies in the basic theme.

The motor theme is the theme with high density and many topics. These are important for the structure of the research area. These are investments, decision-making, stock market, corporate strategy, firm size, capital, and financial system in the motor theme.

The niche theme is the theme that few researchers choose but has a vast scope. These are industrial economics, industrial management, and strategic planning.

The emerging theme is the theme that will have a significant influence in the near future. The new researchers should consider these themes. These are dividends, and economic and social effects of share repurchase.

CONCLUSION

Numerous academic articles have been written about share repurchase over a long period of time. Although it was first discussed in 1968, the scope of the issue remains large and is constantly expanding. With the use of VOSviewer and Biblioshiny, the first-ever bibliometric analysis of worldwide literature about share buyback and repurchase has been undertaken in this study. It is found that the Journal of Corporate Finance and Journal of Financial Economics are the most influential journals for publishing articles on the subject of share repurchase. These journals have set the standard for share repurchase publications for decades, and their influence certainly appears to expand.

The present study further revealed that the popular articles were typically published between 2011 and 2013, which might be considered a prime time for share repurchase research. Furthermore, with 13 publications and 61 citations, Wesson has published the maximum number of articles on share repurchase. Many fresh studies have been conducted by Wesson as a starting point for their research in order to gain a deeper understanding of the topic.

In this investigation, it was discovered that some research publications are regarded as being extremely important in finding new information for share repurchases. These include "Payout Policy in the 21st Century" in 2005 by Brav. et al, "Market Underreaction to Open Market Share Repurchases," published in the Journal of Financial Economics in 1995 by Ikenberry, et al and " Dividends, Share Repurchases, and the Substitution Hypothesis," published in the Journal of Financial Economics in 2002 by Grullon and Michael with the maximum number of citations of 978, 835 and 635 respectively.

The contribution of the countries has also been analysed and it has been noted that the United States, followed by the United Kingdom, Taiwan, Australia, and China, publishes the maximum number of research articles on the topic of share repurchase. (US=266 , UK= 56 ,Taiwan=54, Australia=31, China=23). China has experienced the most significant increase in publications since 2008 as a result of its increased emphasis on research on the topic. Further, China's publications have been cited 469 times, ranking them second worldwide behind the United States (7471 citations).

The keywords in the literature that were most frequently highlighted were stock market, financial systems, investment, corporate strategy, financial market, decision-making, market condition, regression analysis, and firm size. Additionally, it has been noted that capital structure, dividend policy, and financial flexibility are the main topics of share repurchase papers. Understanding share repurchase requires a thorough understanding of these topics. It has been found that investments and share repurchase are compared in several publications. The financial system was heavily discussed by authors in the past, but this attention has gradually diminished. Authors now focus more on corporate strategy and the stock market than the financial system.

In the area of study, share repurchase is a popular and expanding issue. Share repurchase can be the subject of future research because it has several applications. Buying back the shares may have a positive impact on both the stock market's liquidity and its volatility, which often go unnoticed (Lewis & White, 2021).

In light of this, the present research may prove to be valuable because it examines and provides a holistic perspective of the evolution of this research field, including its important contributors and their collaborations. Even though this study provides a thorough analysis of the topic of share repurchase it still suffers from some drawbacks. First, the study took into account only Scopus data for the analysis. However, there are some other sources of data like the Web of Science, Google Scholar, and PubMed available. Secondly, the drawbacks of the software used in the analysis (Biblioshiny and VOS viewer) are unavoidable. These softwares provide a comprehensive analysis but there are still a few more analyses that can be added using some additional software. Since this is the first bibliometric study on share repurchase, this type of analysis needs to be done more often in the future using different research methods on different databases to keep track of how the topic is growing.

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