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Choice of international diversification strategies: evidence from Indian industries

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Abstract: The study investigates and compares varied Indian industry groups with respect to their preferences for international diversification strategies. Jacquemin and Berry entropy (1979) approach is employed for calculating inter-region and intra-region diversification of companies in these industry groups. 'Drugs and pharmaceuticals' followed by 'information technology and communication' are revealed as the most internationally diversified industries while 'textile and wearing apparel' followed by 'construction' appeared as the least internationalised groups of industries. The results strongly assert that international diversification is industry-specific. Both the pace as well as preference of international moves varies across different industries. Statistically significant differences across industrial groups are endorsed by Games-Howell post hoc analysis.

Keywords: international diversification strategy; intra-region diversification; inter-region diversification; industry groups; entropy approach; Games-Howell post hoc analysis; India.

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1 Introduction

Industry comprises of group of firms that deal in similar or closely related goods or services (Hunger and Wheelen, 2013). Aggregate of key industrial sectors in a country builds an economy. Put differently, industrial growth leads to an exhilarating economy (Kniivila, 2007; Ndiaya and Lv, 2018). There are several growth strategies available to industries. These may include concentration strategies as vertical growth and horizontal growth; and diversification strategies as concentric and conglomerate diversification (Hunger and Wheelen, 2013). The latter strategies of diversification are more relevant to product diversification rather than geographical expansion. Much work already exists on product diversification strategies of companies (Raman et al., 2003; Mohindru and Chander, 2008; Rushin, 2010; Subbramoney, 2011; Oki, 2013; Purkayastha, 2013; Su and Tsang, 2015; Berg, 2016; Bhatia and Thakur, 2017; Wiersema and Beck, 2017; Jayathilake, 2018; Wang et al., 2019). In the era of liberalisation, privatisation and globalisation, the strategy of horizontal expansion via international diversification is in fact gaining momentum and is becoming one of the most modish strategies followed by companies (Agnihotri and Bhattacharya, 2019). Integration of world market has even augmented the preference for this strategy.

International diversification is defined as expansion of a firm beyond its home territories into different geographical regions or countries (Hitt et al., 1997). In other way, it is characterised as involvement of a firm in foreign market by way of resources committed to foreign market and dispersion of these resources across different markets (Bekes et al., 2021). It is a significant strategy of growth through which a firm can exploit opportunities beyond its homeland (Espinosa-Mendez et al., 2021). Many firm-level studies have been conducted till date to examine the internationalisation of firms across the globe. Sullivan (1994) studied the extent of internationalisation of 74 US manufacturing companies from the year 1988 to 1990. UNCTAD (1995) investigated the extent of transnationalisation of top 100 largest and 50 small and medium sized transnational corporations (TNCs) based in developed countries, and top 50 largest TNC's based in developing countries in the year 1993. Ietto-Gillies (1998) assessed the degree of internationalisation of world's top 100 TNCs. Stephan (2002) captured international diversification strategies of 46 multinational corporations headquartered in triad countries namely the USA, Europe, Japan and Germany over a period of 15 years from 1983–1997. Chan-Olmsted and Chang (2003) studied the extent and nature of international diversification of top seven global media conglomerates during 1992–2002. Van Kranenburg et al. (2004) assessed the nature and extent of product and international diversity of 30 large-sized companies in the publishing industry headquartered in Australia, Europe and North America over two points of time; 1999 and 2002. Aggarwal et al. (2011) examined the firm-level internationalisation of 1289 firms based in seven countries namely Canada, France, Germany, Italy, Japan, the UK and the USA. Szymura-Tyc (2013) measured the degree of internationalisation of 274 firms based in Poland in 2005. Chadha and Berrill (2016) investigated 225 Japanese firms over a 6 year time period from 1998 to 2013. Likewise, Berrill and Hovey (2018) studied the international expansion across 1990 to 2012 on a sample of 600 UK firms.

Firms have discrete and specific reasons to diversify internationally. These may include the urge to circumvent country-level risk (Gaur and Kumar, 2009), gain competitive advantage (Atlaf and Shah, 2016), utilise abundant resources (Abdullah, 2015), invest surfeit funds (Dagino et al., 2019), and explore new markets (Brock et al., 2006), etc. But intent of the whole industry to cross national boundaries needs exploration and research. Previous studies highlight that industry is one of the most significant factors that influences firm's strategic choices of internationalisation (Elango, 1998; Herrmann and Datta, 2005; Li and Yue, 2008; Lu et al., 2014; Ayden et al., 2020; Saikia et al., 2020). Distinct from firm-level circumstances, each industry has different constraints and opportunities (Stonehouse and Snowdon, 2007). Industrial structure in which a firm operates considerably affects its choice of competitive strategies (Porter, 1990; Andersson et al., 2014). Thus, it can be opined that different industries may have different preferences for the strategies of international diversification. There are varied reasons to support these differences. First, each industry is differently influenced by the economic and political environment of its home country (Roth and Morrison, 1990). Those who find it favourable prefer to remain within the national boundaries; while others may use the strategy of international diversification as an escape route from voids created by the country's macro environment. Secondly, level of competition varies from industry to industry (Porter, 1990). Unhealthy competition destroys industry attractiveness (Porter, 1990). Therefore, such industries may seek growth opportunities outside their home market (Kirca et al., 2012). Thirdly, there are differences in the degree and nature of risk inherited across different industries during varied business cycles in a country (Misra and Misra, 2007). For instance, defensive industries face relatively lesser risk as compared to growth industries across business cycles (Dearborn Trade Staff, 1998). Diversification strategy may provide shelter to growth industries to circumvent the risk of business cycle fluctuations (Bhatia and Thakur, 2017). Fourthly, nature of product or service in which an industry deals also affects their strategic choices of internationalisation. Standardised goods and services have larger market even beyond the home frontiers (Yip, 1994). Industries dealing in distinct or non-standardised or indigenous products may not be embraced equally well at the international podium. Finally, there are other factors as capital intensity (Mihailova and Panibratov, 2012), technological intensity (Lejpras, 2009; Zemaitis et al., 2016; Enjolras et al., 2019), industry's domestic growth rate (Elango, 1998), industry's global growth rate (Elango, 1998), industry concentration (Saikia et al., 2020), import competition (Elango, 1998), market demand (Mihailova and Panibratov, 2012), intensity of knowledge (Lejpras, 2009), etc. which have been viewed as reasons for differences in strategic choices of industries. Even the theory of oligopolistic reaction (Knickerbocker, 1973), and network perspective theory (Johanson and Mattson, 1988) provides an insight to understand the role of industry characteristics in firm's international expansion. Oligopolistic theory considers the role of industry concentration and states that firms in an oligopolistic industry tend to follow the international expansion path of their rivals. Whereas network perspective theory highlights that the firms choose only those strategies which other firms in their network are following. This affirms homogeneity within an industry or in other words heterogeneity across industries. Moreover, CPP model propounded by Paul and Sanchez (2019) provides a new theoretical insight into the internationalisation of different industrial groups by grouping them into three categories as conservatives, predictables, and pacemakers wherein conservatives do not expand much, predictables

grow by entering into certain agreements and contracts while the pacemakers grow internationally at a very high pace since their inception.

Despite the paramount importance of industry factor, an examination of internationalisation choices at industry-level has not received much attention of researchers (Oh et al., 2019). International diversification assuredly provides some unique and alluring benefits to every industry. These include reduction of risk of concentrating a firm's overall operations in a single country and thus eluding uncertainties related to home country's environment (Garrido-Prada et al., 2019). Businesses also evade the disadvantages of weak home institutional environment by dispersing their operations outside home market (Gaur and Delios, 2015; Nuruzzaman et al., 2019). International diversification provides access to abundant resources, cheap land and low cost labour located outside home country (Atlaf and Shah, 2016; Guo et al., 2019). Firms also gain access to certain country-specific resources. For instance, industries dealing in Wine production should prefer 'France' as their destination; 'fuel and power' industries should explore Russia for abundant energy reservoirs while Japan should be the most appropriate terminal for technology oriented businesses. This reflects the proposition of Dunning eclectic theory (1980) which states the role of country's characteristics in firm's international expansion, also, international diversification gives opportunity to realise economies of scale and scope through increased production volume (Ozturk and Ibrahim, 2017). Overall, international diversification improves firm's performance (Sun et al., 2019) and enlarges shareholders' wealth (Doukas and Lang, 2003). Given these wide range of benefits, each industry intends to expand its operations overseas. But matter of research is that do all industries equally prefer to transit to foreign lands? If yes, do all industries have the same pace of expansion? These questions tickle the inquisitiveness of researchers to explore the issues connected with preference of industries for international diversification and become motivation for current research. In an effort to find answers to the stated questions, the study undertakes the following specific objectives:

- 1 to study the extent and degree of international diversification of different industries in India
- 2 to assess the intra and inter-region moves of various industries, thereby determining the nature of the strategic choices adopted by different industrial groups in India.

Thus, the current research work undertaken becomes unique in itself as it significantly contributes to the available literature. First, it considers the industry specific internationalisation moves rather than the macro level exchanges in terms of foreign direct investment (FDI) outflows undertaken at country level, and already much analysed by agencies and researchers. Also such type of analysis involving FDIs and exports is usually relevant at the institutional level rather than individual level. Secondly, the research contributes to the academic literature rather than institutional databases. Thirdly, the work undertaken not only analyses the quantum of international diversification but also identifies the direction, nature and global expanse of industries by using the most sophisticated methodology available.

The remaining paper is structured as follows: succeeding section reviews the extant literature on the topic and identifies the research gap. Section 3 outlines the research methodology and technique employed. Section 4 presents the empirical results of the study. Section 5 delineates the finding of the study. Section 6 analyses and discusses the

results. Section 7 concludes the study and extends towards theoretical and managerial implications in the penultimate Section 8. Last, Section 9 exhibits the shortcomings of the study which can be considered by researchers to work upon in future.

2 Literature review

Innumerable studies have explored varied industry groups with regard to their current status and scenario in the domestic market (Pimpa, 2013; Boehe, 2016; Beule and Narayanan, 2016; Nair, 2019; Patil and Suresh, 2019; Prakash et al., 2020; Shukla, 2021). But lesser work is available that analyses different industries with regard to their geographical presence across international markets. Some efforts are seen in handful of works as; UNCTAD (1995) has studied the industry-wise internationalisation by dividing the sample of top 100 TNCs based in developed economies into 18 industries. Results of the study reveal that ‘chemical’ industry and ‘food’ industry scored highest on International diversification index whereas ‘trading’ industry relatively scored the lowest in the year 1993. Consistent with UNCTAD (1995), Ietto-Gillies (1998) takes the sample of world’s top 100 transnationals which mostly belong to developed countries and attempt to analyse the industry-wise internationalisation by dividing the sample into 11 industries. On transnationality index, ‘construction’ industry scores highest whereas ‘service’ and ‘trading’ industry indicates low score. While on network spread index, ‘food, beverages and tobacco’ industry ranks first while ‘service’ and ‘trading’ industry ranks low on this index too. Similarly, Stephan (2002) has examined industries in the USA, Germany, Japan, and Europe and reported that international operations of ‘pharmaceutical’, ‘telecom’ and ‘machinery’ industry were more dispersed across region than other industries during the time period of 1983–1997. Chadha and Berrill (2016) too have attempted to measure the internationalisation of 10 Japanese industry groups during the period from 1998 to 2013. The study applied ABKH subsidiary-based model proposed by Aggarwal et al. (2011) and reported that ‘oil and gas’ followed by ‘technology’ and ‘consumer goods’ industry were the most multinational industries; while ‘consumer services’ and ‘utilities’ were the least multinational ones. As per sales-based ABHK model, ‘consumer goods’ followed by ‘technology’ and ‘industrials’ were revealed as most internationalised; while ‘consumer services’ and ‘oil and gas’ were revealed as the least internationalised industries. Some recent studies as one by, Oh et al. (2019) too attempted to explore the differences in international expansion path and scope of three industry groups as institution driven, capability driven and linkage driven industries over the time period ranging from 1999 to 2008. Results demonstrated that institution driven industries such as ‘agriculture’, ‘banking’, ‘utility’, ‘natural resource manufacturing’ were likely to expand their assets across borders; where capability driven industries such as ‘information technology’, ‘luxury goods’, ‘electronics’ were favoured to expand their sales abroad; while, industries in linkage driven group such as ‘chemical’, ‘pharmaceuticals’, ‘service and consultancy’ followed both the assets as well as sales related expansion paths. Furthermore, extent of geographic scope was found to be high among capability driven and linkage driven industries relative to institution driven industries. Likewise, Berrill and Hovey (2018) and Chadha and Berrill (2020) analysed internationalisation of ten industry groups of UK over the years from 1990 to 2012 and 1998 to 2015, respectively. The former study disclosed that on ABHK and foreign sales

measure, 'healthcare' and 'basic materials' appeared as most geographically diversified industries whereas on regional measure, 'industrials' and 'telecommunication', and 'technology' was revealed as geographically the most diversified industry. 'Financials', 'consumer goods' and 'utilities' were found to be the least geographically diversified industries on all three measures as ABKH, foreign sales, and regional measure. The latter study reported 'basic material' as most multinational industry, while 'utility' was found to be the least multinational industry on both sales and subsidiary-based measure.

Bhattacharyya and Shaik (2010) based their research on the argument that internationalisation is a phenomenon of industries in developed countries and much work relates to the developed economies of the world. But developing economies also provide ample opportunities to their industries to choose international growth strategies. Das (2007) used case study approach and highlighted the emergence of industries of one of the fastest developing countries, India in international market. Similarly, Rangan and Parrino (2008) conducted an exploratory study and observed the rapid expansion of Indian industries in both the developed as well as developing countries of the world. This shows the enthusiasm among Indian industries in penetrating the world market. With this surge of India Inc. in overseas markets, a few Indian studies have explored the international expansion of Indian industries. Pradhan (2005) explored the industry-wise internationalisation and reported that 'basic metal' and 'chemical and chemical products' invested heavily abroad during 1975 to 1990 time period. However, during the decade of 1991 to 2001, 'Information technology and communication' industry invested more in overseas investment vis-à-vis other industries. Similarly, Chaudhry et al. (2018) replicated the study of Pradhan (2005) with one additional time period from 2001 to 2014. Results revealed preference of internationalisation among 'pharmaceutical' and 'chemical and chemical related products' industry groups. Likewise, EXIM (2014) reported 'pharmaceuticals' and 'chemical and related product' industry groups as the most internationalised one during the period from 2002 to 2012. Following suit with EXIM (2014), Kaushal (2018) showed similar results during 2003 to 2012. Athukorala and Veeramani (2017) and Iqbal et al. (2018) studied the overseas expansion of industry groups in India; where former reported greater contribution of 'basic metal' and 'chemical' group in overseas Greenfield investments during the period 2003 to 2014; and the latter study showed 'electronics', 'chemicals', 'pharmaceuticals' and 'services' as leading industries of India in terms of outward foreign investment over the years from 2008 to 2012. Lately, Joseph (2019) disclosed highest share of 'information technology and communication', 'pharmaceuticals', 'iron and steel', and 'automobile' industries in India's total OFDI during time period of 11 years from 2008 to 2018.

All the studies mentioned above use aggregated macro level data on outward foreign direct investment of Indian industries. Also, these studies do not evaluate the varied strategic choices of internationalisation opted by varied industries. The present paper is a response to a call made by Rangan and Parrino (2008) to use firm level data for empirically evaluating the internationalisation of different industries in India. Thus, the current paper assesses firm level data and explores the differences in extent and nature of international diversification of industries in India to bridge the existing gap in literature.

3 Methodology

3.1 Sample

Sample of the study comprises of 429 private sector companies selected from India's most valuable 500 BT (Business Today, 2017) companies after excluding companies for which data is not available and companies which do not exist throughout the time period of study. The sample is further spread over 13 industries on the basis of 2-digit level of National Industrial Classification (NIC). Detail of industry groups and sub-industry groups in which these sampled firms are categorised is given in Table 2.

3.2 Time period

The choices of international diversification strategies preferred by Indian industries are accessed from 2009–2010 to 2017–2018. Since it is very rare that significant frequent changes occur in the structure of any industry (Stonehouse and Snowdon, 2007) and it is quite probable that one industry follows the same internationalisation strategy for a prolonged period, the total span of nine years is evaluated by taking intermittent years rather than continuous years. Hence, international moves are accessed over three points of time as 2009–2010, 2013–2014 and 2017–2018.

3.3 Data sources

As annual reports ensure authenticity and completeness in terms of company's communications, data for the study is extracted manually from the annual reports of sampled companies for measuring international diversification of firms in each industry.

3.4 Statistical tools used

Brown-Forsythe one-way ANOVA is conducted to examine the statistically significant differences in Internationalisation choices of different industry groups. Games-Howell post hoc test is applied to check statistically significant difference in pairs of industry groups.

3.5 Measurement of international diversification

Jacquemin and Berry entropy approach (1979) has been employed to capture international diversification of firms in each industry. The novelty of entropy approach lies in its capability to capture the intensity as well as the scope of foreign operations. This approach allows decomposition of total international diversification into its various relative components. Therefore, two indices of international diversification, one for inter-region diversification and the other for intra-region diversification have been computed by using mathematical expressions in Table 1.

Inter-regional diversification captures the dispersion of a firm's foreign subsidiaries across different geographical regions. Entropy index of inter-regional diversification is zero when a firm has subsidiary(ies) in one region only, since $\ln = 0$. It implies that all foreign subsidiaries of the firm are concentrated in only one region. It is equal to \ln when

all the foreign subsidiaries are equally dispersed among geographical regions. Hence, the value of this Index increases with the increase in dispersion of foreign subsidiaries among various regions. Intra-regional diversification measures the dispersion of a firm's foreign subsidiaries across similar countries within the region. Entropy index of intra-regional diversification is zero, when foreign subsidiaries of the firm are located in one country within region(s). And it is equal to \ln , where foreign subsidiaries of the firm are equally dispersed across countries within region(s). Thus, the value of this index increases with the increase in dispersion of foreign subsidiaries across countries within region(s).

Table 1 Definition of variables

<i>Variables</i>	<i>Mathematical expressions</i>	<i>Definition</i>
Inter-region diversification	$INTER = \sum_{j=1}^m \left(P_j * \ln \frac{1}{P_j} \right)$	m defines number of regions in which firm's subsidiaries are located; P_j defines share of firm's subsidiaries located in j^{th} region
Intra-region diversification	$INTRA = \sum_{j=1}^m (INTRA_j * P_j)$ where $INTRA_j = \sum_{i \in J} \left(P_{ji} * \ln \frac{1}{P_{ji}} \right)$	relative to its total number of foreign subsidiaries; P_{ji} defines share of firm's subsidiaries located in i^{th} foreign country relative to its total foreign subsidiaries in the j^{th} region; \ln means natural logarithm

Source: Jacquemin and Berry entropy approach (1979)

Further, the study has adopted World Bank Geographical Region Classification framework (2018) which draws seven regional boundaries across the world as East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, North America, South Asia, and Sub-Saharan Africa. The study preferred geography-based classification system relative to economic, cultural and political-based regional classification system because geography-based classification remains the same with the change in time and also it incorporates all countries of the world (Yildirim and Efthyvoulou, 2018).

In order to elucidate the internationalisation strategies followed by different industries, the study adopted two dimensional categorical framework proposed by Vachani (1991) and Van Kranenburg et al. (2004). The framework provides deep understanding of extent of international diversification (high and low) and direction of international diversification, that is, whether a firm is concentrated in one region or dispersed among different regions (Van Kranenburg et al. (2004). For operability of this framework, firm's high/low level of inter-region as well as intra-region diversification is determined by using mean as a cut off value in order to classify the firms of each industry into four internationalisation strategies as follows:

- 1 *internationally low diversified (ILD) strategy* which includes firms having low level of both inter-region and intra-region diversification
- 2 *internationally focused diversified (IFD) strategy* which includes firms having low level of inter-region diversification but high level of intra-region diversification
- 3 *internationally diffused diversified (IDD) strategy* which includes firms having low level of intra-region diversification but high level of inter-region diversification

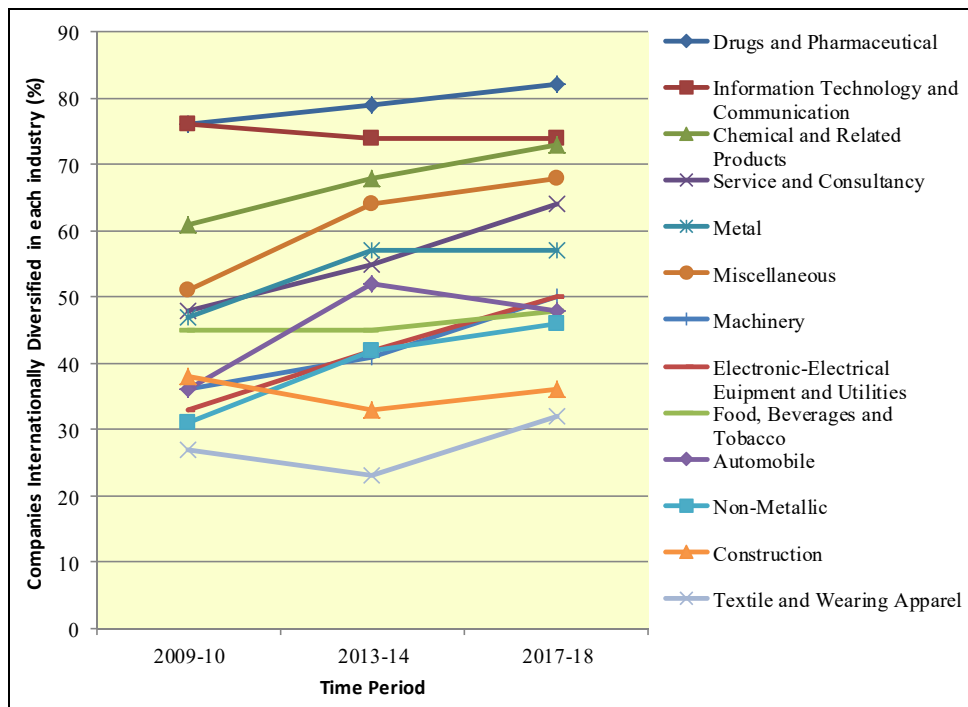
- 4 *internationally high diversification (IHD) strategy* which includes firms having high level of both inter-region and intra-region diversification.

4 Empirical results

The results of internationalisation preferences of 13 industry groups over three points of time are presented in Table 2.

To catch instant eye of the readers, the patterns and preferences for the strategy of International Diversification of various industries can also be summarised in Figure 1.

Figure 1 Trends in international diversification across different industries (see online version for colours)



Source: Author's calculations

Industry-wise results of international diversification depicts that different industry groups have different preferences for international diversification strategies. To statistically test if the preference for international diversification strategy is significantly different among various industry groups, Brown-Forsythe test has been applied at 5% level of significance over three different points of time, i.e., 2009–2010, 2013–2014 and 2017–2018. Results are shown in Table 3.

Table 2 Measurement of international diversification choices of Indian industries

Sr. no.	Industry groups	Industry sectors	Categories	2009–2010		2013–2014		2017–2018	
				No.	%	No.	%	No.	%
1	Drug and pharmaceuticals (33)	Medicinal chemicals; botanical products; pharmaceuticals	Internationally non-diversified	8	24	7	21	6	18
			Internationally diversified	25	76	26	79	27	82
			<i>Total</i>	33	100	33	100	33	100
			Internationally low diversified	6	24	9	35	8	30
			Internationally focused diversified	3	12	1	4	1	4
			Internationally diffused diversified	6	24	5	19	7	26
2	Information technology and communication (46)	Programming and broadcasting activities; telecommunications; information service activities	Internationally high diversified	10	40	11	42	11	41
			<i>Total</i>	25	100	26	100	27	100
			Internationally non-diversified	11	24	12	26	12	26
			Internationally diversified	35	76	34	74	34	74
			<i>Total</i>	46	100	46	100	46	100
			Internationally low diversified	09	26	9	26	7	21
3	Chemical and related products (41)	Basic chemical, fertilisers and nitrogen compound, paint, explosives, ammunition and fireworks	Internationally focused diversified	-	-	-	-	-	-
			Internationally diffused diversified	10	28	9	27	8	23
			Internationally high diversified	16	46	16	47	19	56
			<i>Total</i>	35	100	34	100	34	100
			Internationally non-diversified	16	39	13	32	11	27
			Internationally diversified	25	61	28	68	30	73
			<i>Total</i>	41	100	41	100	41	100
			Internationally low diversified	6	24	10	36	9	30
			Internationally focused diversified	4	16	5	18	6	20
			Internationally diffused diversified	9	36	7	25	8	27
			Internationally high diversified	6	24	6	21	7	23
			<i>Total</i>	25	100	28	100	30	100

Source: Author's calculations

Table 2 Measurement of international diversification choices of Indian industries (continued)

Sr. no.	Industry groups	Industry sectors	Categories	2009–2010		2013–2014		2017–2018	
				No.	%	No.	%	No.	%
4	Service and consultancy (33)	Accommodation and food service; activities, auxiliary to financial services; human health and social; rental and leasing; logistics; travel agency, tour operator and other reservation services; arts, entertainment and recreation	Internationally non-diversified	17	52	15	45	12	36
			Internationally diversified	16	48	18	55	21	64
			<i>Total</i>	33	100	33	100	33	100
			Internationally low diversified	4	25	6	33	8	38
			Internationally focused diversified	-	-	2	11	5	24
			Internationally diffused diversified	7	44	5	28	4	19
5	Metal (30)	Basic metal; fabricated metal products except machinery and equipment	Internationally high diversified	5	31	5	28	4	19
			<i>Total</i>	16	100	18	100	21	100
			Internationally non-diversified	16	53	13	43	13	43
			Internationally diversified	14	47	17	57	17	57
			<i>Total</i>	30	100	30	100	30	100
			Internationally low diversified	3	21	3	18	2	12
6	Miscellaneous (47)	Wood and wood products; paper; leather; jewellery, agriculture, forestry and mining; rubber and plastic products; refined petroleum products; cosmetics and toiletries	Internationally focused diversified	3	21	3	18	3	18
			Internationally diffused diversified	3	22	2	12	3	18
			Internationally high diversified	5	36	9	53	9	53
			<i>Total</i>	14	100	17	100	17	100
			Internationally non-diversified	23	49	17	36	15	32
			Internationally diversified	24	51	30	64	32	68
			<i>Total</i>	47	100	47	100	47	100
			Internationally low diversified	11	46	15	50	17	53
			Internationally focused diversified	1	4	3	10	4	12
			Internationally diffused diversified	5	21	6	20	5	16
			Internationally high diversified	7	29	6	20	6	19
			<i>Total</i>	24	100	30	100	32	100

Source: Author's calculations

Table 2 Measurement of international diversification choices of Indian industries (continued)

Sr. no.	Industry groups	Industry sectors	Categories	2009-2010		2013-2014		2017-2018	
				No.	%	No.	%	No.	%
7	Machinery (22)	General purpose and special purpose machinery	Internationally non-diversified	14	64	13	59	11	50
			Internationally diversified	8	36	9	41	11	50
			<i>Total</i>	22	100	22	100	22	100
			Internationally low diversified	3	38	5	56	4	37
			Internationally focused diversified	2	24	1	11	3	27
			Internationally diffused diversified	3	38	1	11	3	27
8	Electronic-electrical equipment and utilities (36)	Computer, electronic and optical products; electrical equipment; utilities; electricity	Internationally high diversified	-	-	2	22	1	9
			<i>Total</i>	8	100	9	100	11	100
			Internationally non-diversified	24	67	21	58	18	50
			Internationally diversified	12	33	15	42	18	50
			<i>Total</i>	36	100	36	100	36	100
			Internationally low diversified	3	25	5	33	8	45
9	Food, beverages and tobacco (29)	Manufacture of food products, beverages and tobacco	Internationally focused diversified	2	17	2	13	2	11
			Internationally diffused diversified	2	17	4	27	4	22
			Internationally high diversified	5	41	4	27	4	22
			<i>Total</i>	12	100	15	100	18	100
			Internationally non-diversified	16	55	16	55	15	52
			Internationally diversified	13	45	13	45	14	48
			<i>Total</i>	29	100	29	100	29	100
			Internationally low diversified	8	62	8	62	6	43
			Internationally focused diversified	-	-	-	-	1	7
			Internationally diffused diversified	3	23	2	15	2	14
			Internationally high diversified	2	15	3	23	5	36
			<i>Total</i>	13	100	13	100	14	100

Source: author's calculations

Table 2 Measurement of international diversification choices of Indian industries (continued)

Sr. no.	Industry groups	Industry sectors	Categories	2009–2010		2013–2014		2017–2018	
				No.	%	No.	%	No.	%
10	Automobile (25)	Motor vehicles, and other transport equipment	Internationally non-diversified	16	64	12	48	13	52
			Internationally diversified	9	36	13	52	12	48
			<i>Total</i>	25	100	25	100	25	100
			Internationally low diversified	2	22	4	31	2	17
			Internationally focused diversified	3	33	4	31	2	17
			Internationally diffused diversified	2	22	2	15	5	41
11	Non-metallic (26)	Non-metallic mineral products	Internationally high diversified	2	23	3	23	3	25
			<i>Total</i>	9	100	13	100	12	100
			Internationally non-diversified	18	69	15	58	14	54
			Internationally diversified	8	31	11	42	12	46
			<i>Total</i>	26	100	26	100	26	100
			Internationally low diversified	5	62	7	64	7	58
Internationally focused diversified	1	13	2	18	3	25			
Internationally diffused diversified	1	13	2	18	-	-			
Internationally high diversified	1	13	-	-	2	17			
			<i>Total</i>	8	100	11	100	12	100

Source: Author's calculations

Table 2 Measurement of international diversification choices of Indian industries (continued)

Sr. no.	Industry groups	Industry sectors	Categories	2009-2010		2013-2014		2017-2018	
				No.	%	No.	%	No.	%
12	Construction (39)	Construction of building; Civil engineering; roads and railways, utility projects	Internationally non-diversified	24	62	26	67	25	64
			Internationally diversified	15	38	13	33	14	36
			Total	39	100	39	100	39	100
			Internationally low diversified	7	47	4	31	7	50
			Internationally focused diversified	3	20	3	23	4	29
			Internationally diffused diversified	3	20	4	31	1	7
13	Textile and wearing apparel (22)	Preparation, spinning, weaving and finishing of textile; made-up textile articles except apparel; manufacture of wearing apparel	Internationally high diversified	2	13	2	15	2	14
			Total	15	100	13	100	14	100
			Internationally non-diversified	16	73	17	77	15	68
			Internationally diversified	6	27	5	23	7	32
			Total	22	100	22	100	22	100
			Internationally low diversified	3	50	2	40	3	43
			Internationally focused diversified	-	-	-	-	-	-
			Internationally diffused diversified	3	50	2	40	4	57
			Internationally high diversified	-	-	1	20	-	-
			Total	6	100	5	100	7	100

Source: author's calculations

Table 3 Results of Brown-Forsythe ANOVA

<i>Robust test of equality of means</i>				
	<i>Statistic</i>	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
<i>2009–2010</i>				
Brown-Forsythe	4.998	12	343.765	.000
<i>2013–2014</i>				
Brown-Forsythe	4.686	12	357.029	.000
<i>2017–2018</i>				
Brown-Forsythe	5.657	12	366.677	.000

Source: SPSS

Table 3 shows that significance value of Brown-Forsythe test is less than 5% at all three points of time; thereby revealing that at least one of the industry groups differs significantly from the rest in their mean score of international diversification.

To check which pair of industry groups shows statistically significant difference; Games-Howell post hoc test has been applied at 5% level of significance at all three points of time. Results of the same are presented in Table 4.

Table 4 Results of Games-Howell post hoc test (significant differences only)

<i>(I) Industry</i>	<i>(J) Industry</i>	<i>2009–2010</i>	<i>2013–2014</i>	<i>2017–2018</i>
		<i>(I – J) mean difference</i>	<i>(I – J) mean difference</i>	<i>(I – J) mean difference</i>
Drugs and pharmaceuticals	Construction	.7820166*	.8702991*	1.0103881*
	Non-metallic	.8844614*	1.0429683*	1.1316368*
	Textile and wearing apparel	.9088848*	1.0693879*	1.0872288*
	Food, beverages and tobacco	-	.8174744*	.8485509*
	Machinery	.7772894*	.8749015*	.8740833*
Information technology and communication	Construction	.8269416*	.8121950*	1.0013473*
	Non-metallic	.9293865*	.9848642*	1.1225960*
	Textile and wearing apparel	.9538099*	1.0112838*	1.0781879*
	Food, beverages and tobacco	.7981274*	.7593703*	.8395100*
	Electronic-electric equipment and utilities	-	-	.7848680*
Chemical and related products	Machinery	.8222144*	.8167974*	.8650425*
	Non-metallic	-	.5741467*	-
	Textile and wearing apparel	-	.6005663*	-

Note: *p < 0.05

Source: SPSS

As suggested by results in Table 4, out of 13 industry groups, 7, 8 and then again seven industry groups are found to be statistically different from each other in 2009–2010, 2013–2014 and 2017–2018, respectively. Thus, preference for ID strategies varies significantly across industries.

5 Findings

The empirical findings highlight that ‘drugs and pharmaceutical’ is the most internationally diversified (ID) industry group of India. An upward trend is seen in its preference for the ID strategy over the years. As presented by results, massive number of companies, i.e., 76% followed ID strategy in 2009–2010, which further increased to 79% and 82% in 2013–2014 and 2017–2018 respectively. Among sub-strategies of ID, internationally high diversified (IHD) strategy is highly favoured with 40%, 42% and 41% of companies in the year 2009–2010, 2013–2014 and 2017–2018 respectively. Least preference is seen for internationally focused diversified (IFD) strategy as only 12% companies followed it in 2009–2010 and the proportion decreased tremendously to 4% by 2017–2018.

The second most internationally diversified industry is ‘information technology and communication’ with 76% companies in ID strategy in 2009–2010 and 74% each in 2013–2014 and 2017–2018 respectively. From internationally diversified groups, higher proportion of companies followed IHD strategy and an appreciable rise is noticed in this proportion during the overall period of time from 46% in 2009–2010 to 47% in 2013–2014 and 56% in 2017–2018. IFD category is revealed as the least favoured category with not even a single company following it.

Next in rank, ‘chemical and related products’ favoured internationally diversified strategy with increasing proportion of companies following it over the years as 61%, 68% and 73% in 2009–2010, 2013–2014 and 2017–2018 respectively. But still the extent of International diversification is low in this industry as ILD strategy is the most favoured one with its proportion being relatively highest over latter points of time at 36% in 2013–2014 and 30% in 2017–2018. IFD strategy in fact remains the least preferred strategy over all three points of time with lesser percentage of companies following it as 16% in 2009–2010, 18% in 2013–2014 and 20% in 2017–2018.

In ‘service and consultancy’ industry, initially low proportion of companies, i.e., 48% favoured ID strategy during the year 2009–2010. But in the subsequent time periods, i.e., 2013–2014 and 2017–2018, this proportion increased to 55% and 64% respectively. Service and consultancy industry is adopting highly inconsistent transitions in its strategies. In 2009–2010, the industry has preference for inter-region diversification with 44% companies in IDD strategy. But in 2013–2014 and 2017–2018, there is shift to ILD strategy with 33% and 38% companies following it respectively. Least preference is found for intra-region diversification, i.e., IFD strategy with zero and 11% companies in 2009–2010 and 2013–2014 respectively. But in 2017–2018, IHD and IDD strategy became the least favoured with 19% companies each following them. Initially service and consultancy group favoured higher strategies of international diversification, i.e., IDD and IHD but in the later years its preference shifted towards lower strategies, i.e., ILD and IFD.

Likewise ‘metallic’ industry group geared its preference for internationally diversified strategy as proportion of companies favoring it increased from 47% in 2009–2010 to a hike of 10%, i.e., 57% in 2013–2014 and 2017–2018 each. Out of the ID strategies, companies preferred IHD strategy at all three points of time with 36% companies in 2009–2010 and an evident increase to 53% in 2013–2014 and then remaining at the same proportion in 2017–2018. Except IHD strategy, there seems to be almost an equal proportion of companies in the remaining strategies at all the three points

of time. Companies seem to be experimenting with the remaining strategies of ID over the years.

'Miscellaneous' group also seems to be leaning towards the strategy of ID during the time period of analysis. In the year 2009–2010, 51% companies followed ID strategy. And in subsequent period, i.e., 2013–2014 and 2017–2018, this proportion increased to 64% and 68% respectively. However, the extent seems low as majority of companies followed the strategy of ILD, the percentage being 46%, 50% and 55% in 2009–2010, 2013–2014 and 2017–2018 respectively. Miscellaneous industry comprising of wood and wood products, paper, leather and leather products, jewellery, agriculture, forestry and mining, rubber and plastic products, refined petroleum products, and cosmetic and toiletries do not go intra region, as IFD is the least followed strategy at all the three points of time.

In the 'machinery' industry, an increasing trend is seen in the extent ID over the years as 36% in 2009–2010, 41% in 2013–2014 and 50% in 2017–2018. Among ID strategies, higher preference is seen for ILD category with 38%, 56% and again 38% following it over three points of time. Machinery industry shows a gradual move towards higher categories of ID as well since the proportion is slowly increasing from ILD to IFD, IDD and at last towards IHD over the years. But overall, in-between strategies followed more than IHD.

In 'electronic-electrical equipment and utility' industry group, low proportion of companies followed ID strategy but the extent of ID has increased over three points of time. The companies favouring ID strategy increased from 33% in 2009–2010 to 42% in 2013–2014 and further surged to 50% in 2017–2018. From ID strategies, there seems to be much preference for outermost strategies and low preference for Intermediate strategies. In 2009–2010, 25% companies followed ILD while 41% followed IHD. In 2013–2014, 33% preferred ILD while 27% followed IHD. In 2017–2018, 45% companies followed ILD while 22% preferred IHD as against low proportion in in-between strategies of ID.

'Food, beverages and tobacco' industry group seems to be moving very cautiously towards internationalisation maintaining a balance between IND and ID with 45%, and 48% companies following ID while the balance in IND over 2009–2010, 2013–2014 and 2017–2018 respectively. While diversifying also low extent is preferred by this industry. The same is evident from the highest proportion of companies in ILD over all three points of time as 62%, 62% and 43% respectively. However, an endeavour to diversify is seen in both inter as well as intra region with the increasing move in IHD category from 15% to 23% and 36% companies in 2009–2010, 2013–2014 and 2017–2018, respectively.

In 'automobile' industry, a huge proportion of companies followed IND strategy as 64%, 48%, and 52% over three points of time respectively. Still an intention to diversify is seen intermittently. Industry is not stable in its preference. From IFD being the most favoured category in 2009–2010 (33%) and 2013–2014 (31%) it shifted to IDD in 2017–2018 (41%). An increase is also seen in proportion of companies going for IHD.

'Non-metallic' industry group too showed low preference for ID strategy during the overall study period, though the proportion of companies that favoured ID strategy increased over time from 31% in 2009–2010 to 42% in 2013–2014 and 46% in 2017–2018. Out of ID strategies, highest proportion of companies follow the least

diversification strategy of ILD with 62%, 64% and 58% at three respective points of time, thus automatically giving least preference to higher strategies of ID.

Similarly in 'construction' industry, less proportion of companies' favoured ID strategy as, 38% in 2009–2010, 33% in 2013–2014 and 36% in 2017–2018. Out of ID group, ILD strategy is the most popular strategy with 47% (2009–2010), 31% (2013–2014), and 50% (2017–2018) companies respectively while IHD is the least preferred one with 13% (2009–2010), 15% (2013–2014), and 14% (2017–2018) companies following it.

'Textile and wearing apparel' is the least internationally diversified industry with more than 3/4th of companies in IND category during 2009–2010. This proportion increased to 77% in 2013–2014. Though a decrease is seen in 2017–2018 by 9%, still 68% of the companies remained non-diversified. The proportion that followed ID strategy preferred either ILD or IDD with 50% and 40% of companies in each strategy during 2009–2010 and 2013–2014 respectively. While in 2017–2018, ILD is preferred by 43% and IDD is preferred by 57% companies. However, neither IFD nor IHD seems to be preferred strategy with this industry over time.

6 Analysis and discussion

It is seen from the above results that some of the industries follow ID strategy quite enthusiastically while some act slowly and cautiously with their international moves. For instance, India's 'pharmaceutical' industry has greatly diversified its operations in the world market. Two decades ago when there was no restriction in India to produce patented generic drugs of other foreign companies, India's largest companies as Cipla, Sun Pharmaceuticals, Ranbaxy and Dr. Reddy Laboratories seized this opportunity at that time and produced those drugs at much low cost. Their contribution helped to control the spread of fatal diseases like HIV, malaria, tuberculosis, hepatitis, Nazis quite economically. Due to this, drugs of Indian pharma companies gradually started getting recommended even by foreign health organisations and Indian pharma companies started moving their operations to foreign countries. Hence, by achieving a comparative cost advantage over its western multinational rivals, Pharmaceutical industry made a niche for itself in the international market. So much so that today this industry is recognised as the most advanced industry amongst all other developing countries of the world (Indian Pharmaceutical Alliance, 2019). The findings of Stephan (2002), Berrill and Hovey (2018), Oh et al. (2019) and Chadha and Berrill (2020) are congruent to our results as they too observed high level of internationalisation in Pharmaceutical firms based in developed countries. This also indicates that Indian pharmaceutical industry runs parallel to advanced nations' pharma industry with respect to high level of geographical presence.

Similarly, India's 'information technology and communication' (ITC) industry is counted amongst the world's top international IT industry (Trade Council India, 2014). The Indian Government timely initiated to set up software technology parks along with the rising wave of liberalisation and globalisation in 1991. This move at the inceptionary stage of LPG era provided a massive boost to Indian IT industry to spread its wings and go global. Also, IT industry is basically a skill-intensive sector and skilled labour is available relatively at low rates in India. This gives Indian IT industry a cost advantage against rest of the world and it is able to supply high end software at much low cost across the globe (Pimpa, 2013). Chadha and Berrill (2016) and Berrill and Hovey (2018)

also advocated high level of internationalisation of technology industry based in developed countries. This perhaps also shows that ITC companies of India compete directly with ITC companies of developed countries in the world market.

‘Metal’ industry too shows its vast presence across countries. Metal is a basic input in construction, automobile, railways, and telecommunication industry. This in fact seems to have boosted Indian metal industry to expand beyond the national frontiers and internationalise both intra and inter-region. For instance, TATA Steel Limited had 209 foreign subsidiaries in 2017–2018. Hindalco Industries Limited and Vedanta Limited had 34 subsidiaries across border in 2017–2018. Berrill and Hovey (2018) and Chadha and Berrill (2020) endorse our findings with respect to metal industry as they too observed high degree of International diversification of metal industry group amongst firms in the UK.

With regard to ‘service and consultancy’ industry, increasing trend is found in their extent of international diversification. There can be identified various reasons for this. First, globalisation has led to migration of people to places around the globe. The Report ‘International Migration 2020’ published by United Nation’s Department of Economic and Social Affairs highlights that India has topped the list of international migrants with 18 million people living outside India in 2020. This large number of population migrating from India shows requirement for Indian-based services and consultancy in terms of finance, food, accommodation, art, entertainment, and recreation etc. in their respective migrating country. This provides an opportunity to Indian service and consultancy industry to operate outside their homeland in different geographical regions. Secondly, enforcement of General Agreement on Trade in Services in 1995 too triggered the overseas expansion of service sector firms. Since the signatories of this agreement can freely undertake business with other signatory countries. Thus it seems that the middle ‘P’ of CPP model, i.e., predictables is applied to service and consultancy industry as their pace of geographical expansion depends upon legal agreement between countries. Thirdly, as hinted by Boehe (2016), strong network relationships are preliminaries to internationalisation of service firms. Such firms capitalise more on such intangibles than the availability of cost-advantageous physical resources. India has good networking with rest of the world especially after liberalisation, privatisation and globalisation. The network model adopted by the service firms seems to have contributed to their expansion in the overseas markets. However, contrary to our findings, Ietto-Gillies (1998) and Chadha and Berrill (2016) found least preference for ID strategy among Service groups of industrialised nations. This type of results may assert that Service groups of developed nations may not be able to seek same opportunities globally as those of India.

‘Chemical and related products’ has preferred ID strategy, though its operations are scattered randomly across inter-region as well as intra-region. On one hand, availability of high technical talent, R&D capabilities, and cheap labour base has driven Indian chemical industry to serve its high quality and cost effective chemical and chemical related products across borders. But on the other hand, heavy domestic demand for chemical and its related products by other industries limits its operations to domestic market (PSA, 2012).

Most of the industries grouped under ‘miscellaneous’ head favoured ID as a growth strategy but their operations are diversified low across the regions as well as within the region. Industrial sectors covered under miscellaneous industry group as wood, paper, leather, rubber, plastic, cosmetics, and toiletries, etc. are highly dominated by

unorganised sector which usually limit its operations to the local niche alone leading to lower level of overseas expansion.

Among the industries where the strategy of ID is not popular: ‘textile and wearing apparel’ industry of India is at the top. No doubt fabric of textile industry is in high demand in foreign countries, especially ‘khadi’. But as far as wearing apparel sector is concerned, the industry does not cater to the needs of western world. The cultural differences do not encourage the industry to penetrate foreign markets. Moreover, as advocated by researchers as Shetty (2001), Raichurkar and Ramachandran (2015), Dalal (2019) and Prakash et al. (2020), the challenges faced by Indian textile and wearing apparel industry in terms of low level of technology, low productivity, shortage of raw material, low share in global exports, and inflexibility in labour laws hinders its presence in international arena.

‘Construction’ industry witnesses very low level of ID. McKinsey (2009) has reported several inefficiencies present in the Indian construction companies. These include inefficient site management, shortage of material, heavy transportation cost, poor labour productivity, reluctance from architecture for change (Doloi et al., 2012). This industry perhaps fails to meet standards of alien countries and thus remains confined to its local limits. Contrary to our results, Ietto-Gillies (1998) on a sample of world’s largest firms reported the highest level of trans-nationalisation of construction industry as against other industries. Indian construction industry needs to find novel solutions of growth.

Likewise, the extent of internationalisation of non-metallic industry group is found to be low. Beule and Narayanan (2016) observed low level of productivity in non-metallic industry group of India. It would be sufficient if the industry is able to fulfil domestic needs first rather than serving international orders.

‘Electronic, electrical equipment and utility’ industry is also not much in favour of ID. Even till 2018–2019, the share of India’s Electronic industry in the global electronic industry was just 3.3% (Business Standard, 2019). Hence, there has not been much motivation for this industry to grow horizontally. Also, for India it is perhaps difficult to compete with advanced technology used by companies in developed countries. So this industry continues to dwell nationally only. These results are quite contrary to the findings of some studies which showed high level of internationalisation of electronic firms based in advanced countries (Stephan, 2002; Oh et al., 2019). These contradictions seem due to difference between the level of advancement of electronic firms based in developed and developing nations.

Similarly, results depict the non-popularity of the ID strategy among companies in the ‘machinery’ industry also. Even the machinery industry of India lacks in terms of quality and operational efficiency in comparison to the counter-parts in machinery industry in developed countries (Keshari, 2015). This makes Indian companies less competitive as against other foreign companies. And consequently companies confine to their nearby region making ILD the most preferred category and IHD the least favoured one.

‘Automobile’ industry too witnessed low extent of ID over the study period. Government of India initiated Automotive Mission Plan (2006–2016) to envisage India as the most preferred destination for designing and manufacturing automobiles. This seems to have probably directed the focus of this industry towards home market. But still the number of firms which favoured ID seems to be significant. Companies have shown an inclination from lower to higher categories of ID. Government funded National Automotive Testing and R&D Infrastructure Project (*NATRiP*), initiated in 2005

facilitates upgrading the operations of automobile manufacturers. This might have increased the capacity of firms to enter into more heterogeneous regions.

'Food, beverages and tobacco' industry deals with palate specific products. No doubt it shows greater preference for low levels of international diversification strategies as ILD. But our results showing move of this industry towards IHD which rightly fits in the rationale given by UNCTAD (2001). It states that companies with low intensity of technology have a low level of concentration in a particular region and rather disperse in varied far-flung regions/countries. In fact, companies in this industry seem to be following assets light business model to rapidly enhance their geographical expanse. Findings of UNCTAD (1995) and Ietto-Gillies (1998) that observed high level of dispersion of this industry across regions coincide with our results.

7 Conclusions

The study explores the nature and extent of international diversification of different industry groups of India, a field where scarce empirical studies are available. The study highlights that international diversification strategies of industries vary significantly. Some industry groups follow high extent of diversification and favour higher strategies of Internationalisation relative to others. The significance of variations in the strategic preferences of industries is reiterated by the results of Brown-Forsythe ANOVA. These are further analytically confirmed by Games-Howell post hoc test. Thus, the study uniquely contributes to the knowledge of international diversification strategies of varied industry groups in India and their distinctiveness in practice.

8 Theoretical and managerial implications

The results lead to many theoretical implications. First, in the growing phenomenon of globalisation, the results help to assess India's move towards the same. Higher extent of international diversification followed by Indian industries definitely indicates India's extensive participation in the global markets. Similarly, choice of higher strategies suggests preferences for not only intra-region but also inter-region moves and transitions. It also highlights the contribution of various industries in making India global. Secondly, the strategy of international diversification is a strategy of growth and expansion. All firms like to progress and grow. But it should not be followed as a mandate by all the industrial sectors. Several factors as the nature of product, home country environment, institutional back-up and statutory support, expertise and resources available, the intentions of management, etc. become the deciding variables in exercising such choices. Thirdly, there are infinite modes of undertaking international diversification ranging from exporting, licensing, franchising, outsourcing and entering into joint ventures and strategic alliances and even through turnkey projects and green field development. The choice of channel of diversification varies across industries as per their nature and intent. All time comparison of such strategic choices and extent is not feasible. Lastly, every industry faces threats of new entrant and substitutes. Consequently, it has to continuously and rigorously work on its product life cycle. International diversification offers the advantage of postponing the decline stage of an industry and grants longevity to its life

cycle. As seen in the current results, industries gradually move towards higher strategies of international diversification stretching their sustenance.

The study also proposes some managerial implications. First, prudent industrialists assess the nature of product before opting for the strategy of international diversification. For instance, 'textile and wearing apparels' industry is influenced by cultural variations. Even climate and topography affects the choice of markets in this industry. Hence, such an industry may find a more appropriate niche in its home country and need not expand abroad. The same can be applied even to the 'food, beverage and tobacco' industry. Food is not just for the stomach but for the soul. According to psychologists, food has emotional perception of taste which is associated with mother and motherland. Hence this industry might not show extensive mode of diversifying. Secondly, demand for industry products is a vital parameter for diversification decision. Like 'metal' industry which is the backbone of any construction and infrastructure project is in great demand across the globe and should consider diversification extensively. Thirdly, availability of government support affects strategic choices. Government aid acts as a booster in encouraging internationalisation. Those industries where government enters into some trade/services agreements with other countries feel motivated to go global, as seen in 'service' industry in our results. Ironically, this support may at times limit an industry's transition as witnessed in 'automobile' industry where government intends to make India the hub of automobile manufacturing, thus restricting industry's intention to grow horizontally. Fourthly, managers analyse the risk associated with the industry and its products. As in case of tobacco industry – a part of food and beverages industry, inter-region diversification move is also seen, in spite of low extent of internationalisation of industry as a whole. The nature of product, which is unhealthy for human consumption, seems to attract risk coaxing the industry to reach several markets, thus reducing country specific risk of putting all eggs in one basket. Fifthly, distinctive core competence leading to competitive advantage is a very significant deciding factor in an industry's decision to diversify. Endorsed by resource-based view approach, distinctive core competence may be attained by a firm through its strong internal resources in terms of R&D facilities, cost advantages, availability of technical expertise, etc. as seen in 'pharmaceutical' industry, and 'information technology and communication' industry in our findings. Distinctive core competence makes a firm unique, distinct, demanded and much sustainable anywhere across the globe. Last but not the least; industry must feel the need to diversify beyond its national frontiers. If the home market is providing it ample scope of growth and earnings, as in the case of 'metal', 'chemical' and 'construction' industry, the industry may not favour the strategy of international diversification.

9 Limitations and future scope

The study accesses the extent and preferences of international diversification strategies of industrial groups with specific reference to India. Every country offers distinct opportunities as well as constraints to varied businesses. Hence, these results may not be generalised for rest of the world. Future studies may replicate this to industries of other countries. Multi-country comparison would also bring concreteness to findings. The study excludes some major industries as 'banking' and other 'financial' industries. These industry groups too are spreading their wings in the international markets and may be included in the sample. Lastly, future studies may explore the valid reasons for

differences in internationalisation choices of industries by identifying the factors affecting internationalisation of varied industry groups. Still, the current paper gives a preliminary insight into the industry-wise preferences of international diversification and adds value to the existing literature on internationalisation choices of different industry groups.

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