

Developing a Multidimensional Scale to Measure Barriers to Product Branding in International Firms

Muhammad Rizwan Saleem Sandhu¹, Tashfeen Azhar² and Muhammad Zaheer³

Abstract

The paper describes the development of a multidimensional scale to measure the barriers to product branding in international firms. The scale has been developed following the rigorous procedure outlined in the literature. For the development of the scale, the data were collected from Surgical Export Firms in Pakistan. The data were collected in two phases. Phase 01 comprised interviews and focus group discussion, while in phase 02 data were collected from 100 surgical firms. The data were processed using PLS-Smart. The initial scale consisted of 79 items, while the refined scale had 46 items. The scale retained only those items which have both theoretical and statistical significance. The scale has usefulness for individual researchers, industry organizations, and policy institutions.

Keywords: Product Branding; International Firms; Small and Medium Enterprises

Introduction

World trade is interestingly organized, in one part of the world some firms own brands and designs, while on the other part there are firms that manufacture products for brands according to the designs. Those firms that own brands and designs are OBMs (Original Brand Manufacturers) and ODMs (Original Design Manufacturers). The firms which manufacture products are called OEMs (Original Equipment Manufacturers). OBMs and ODMs are factory-less manufacturers, while OEMs are brandless sellers/exporters. Literature shows that the OBMs and ODMs receive a significant share of the trade while OEMs are minor partners despite more significant contributions (Sandhu & Azhar, 2019).

The firms mostly play the role of OEMs in developing countries. Such firms have engaged in international trade since birth and have a long trading history. These firms are connected with the brands and manufacture products to their entire satisfaction, which are sold across the globe. The Surgical Manufacturing Industry of Sialkot, Pakistan, consists of firms manufacturing and exporting surgical instruments to different continents over the decades but without their product brands. These firms have not been able to graduate to the stage of ODM and OBM despite being able to produce world-class quality products. The same is true for other industries in Pakistan and other developing countries. More industry examples from Pakistan include Sports Goods Industry and Textile Manufacturers and Exporters. It raises the natural question of what hinders these international firms from introducing their product brands.

A comprehensive study was conducted to explore the phenomenon and address the question, and the study has been reported in Sandhu and Tashfeen (2019), Sandhu (2020), and Sandhu and Tashfeen (2020). For the study, a scale was developed to measure the barriers to product branding in international SMEs of the developing country of origin. The sole objective of this paper is to describe the development of the multidimensional scale that measures barriers to product branding in international firms. The scale has significance for industrial organizations

¹ Assistant Professor, Department of Management Science, Virtual University of Pakistan.
Email: rizeem@hotmail.com, rizeem1981@gmail.com

² Professor, University of Management & Technology, Lahore, Pakistan

³ Department of Management Science, Virtual University of Pakistan.

Note: The paper has been extracted from the unpublished PhD thesis titled "What hinders international SMEs from introducing own product brands in International market(s): A Study of Surgical Industry of Sialkot, Pakistan" by Muhammad Rizwan Saleem Sandhu from University of Management & Technology in 2020

and policy institutions as it offers the opportunity to measure the barriers to branding. Such measurement may provide policy solutions to the problem.

The paper is organized in headings to describe the development flow of the scale logically. The headings include The Description, Identification, and Definition of Factors/Concepts, Writing of Items and Determination of Measurement Scale, Review of Items, Scale, Expert Feedback, Pilot Testing, Data Collection, Scale Purification, Higher Order Distribution, and Application of the Scale.

The Description

Though literature offers some explanations for the phenomenon, these are only partial. A literature review contributed eleven factors partially explaining international firms' hindrance to product brands (Sandhu & Azhar, 2019). Five interviews and a focus group of senior entrepreneurs representing major Surgical Manufacturing and exporting Industry firms were conducted to explore further. The interviews and focus group discussion contributed further eleven factors.

Identification and Definition of Factors/Concepts

A total of twenty-two (22) factors were identified from the literature, the interviews, and the focus group discussion. It is the generally acceptable method of generating concepts and scales for scale development (Bryman & Bell, 2015; Carpenter, 2018; Creswell et al., 2007; Hinkin et al., 1997; Saunders, 2011; Sekaran & Bougie, 2016). The identified factors were defined operationally based on the literature and the data collected from the interviews and a focus group. The method was to first locate a generally acceptable definition from the literature that could also serve the purpose in the specific context and then verify it in the light of the data collected. In case of the unavailability of the definition or unsuitability in the literature, the definition was determined based on the data.

Writing of Items and Determination of Measurement Scale

As suggested in the literature, for each factor, a minimum of three items were developed, and items for each factor were developed under the light of its operational definition (Bryman & Bell, 2015; Carpenter, 2018; Creswell et al., 2007; Hinkin et al., 1997; Saunders, 2011; Sekaran & Bougie, 2016). Items were developed considering the principles laid down by Sekaran Bougie (2016). Seventy-nine items were developed for 22 factors using a 7-point Likert-type scale anchoring Strongly Disagree to Agree Strongly. 7 point scale has been used because of its superior features, such as better compatibility with the human mind, ability to generate stronger correlations, suitability for electronic distribution, and optimum reliability (Colman et al., 1997; Finstad, 2010; Ghiselli, 1955; Miller, 1956; Symonds, 1924). Factors and items are as follows:

Table 1 Factors, Operational Definitions, and Suggested Items

Sr.	Factor	Operational Definition	Suggested Items to Measure	Suggested Scale
1.	Product Homogeneity of Serious Homogeneity	Due to a low threshold for undertaking OEM, the number of enterprises manufacturing the same type of products has soared. This has led to serious product homogeneity and, inevitably, excessive competition (Zhongqun, 2011).	<ol style="list-style-type: none"> 1. Most of the firms in the industry produce similar types of products. 2. Because of homogeneousness, my business faces strong competition from other firms in the industry. 3. Due to homogeneousness, it is difficult to avoid competition from other firms. 	Likert Scale. 1. Strongly disagree 2. Disagree 3. Disagree Somewhat 4. Neutral 5. Agree Somewhat 6. Agree 7. Strongly agree
2.	Lacking Strategic Awareness of Brand Management	Brand management is a long-term, complex, and scientific process, that demands a definite development strategy and a complete mode of management, comprehensive overall planning from the perspectives of marketing research, market selection, brand orientation, and marketing mix, as well as meticulous efforts with strict methods and pragmatic spirit, which is a process involving long-term efforts (Zhongqun, 2011).	<ol style="list-style-type: none"> 1. I know brand building requires long-term planning. 2. I have the required marketing skills for brand building. 3. If I have brands, I can earn more than what I earn currently. 4. I can invest resources, time, and effort in brand building. 5. I conduct proper research about the market before developing a product. The products of my firm are backed by proper market information. 	Likert Scale.
3.	Neglect of International Demands	Since the firms mostly operate as OEMs, therefore they lack contact with end users. This makes them to be unaware of the demands of end users.	<ol style="list-style-type: none"> 1. I have direct links with the end users in the international market. 2. I sell to the middleman without caring about the end user. 3. I am not aware of what end users want. 4. I often visit end users (Surgeons, Physicians) to know their requirements. 	Likert Scale.
4.	Organizational Culture	Organizational culture is a system of shared assumptions, values, and beliefs, that govern how people behave in organizations. These shared values have a strong influence on the people in the organization and dictate how they dress, act, and perform their jobs.	<ol style="list-style-type: none"> 1. Employees have a role to play in the decision-making of my firm. 2. Employees of my firm are free to give ideas. 3. I like strict control and giving orders. 	Likert Scale.
	Organizational Culture Contin...	Branding of products requires open culture which allows employee participation in decision making and knowledge-based linkages with other organizations.	<ol style="list-style-type: none"> 4. I encourage my people to think and suggest new ideas. 5. I encourage linkages with other organizations which can help in learning new things. 	Likert Scale.

5.	Core of Lack of Competitiveness	The ability of a firm or a nation to offer products and services that meet the quality standards of the local and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them.	<ol style="list-style-type: none"> 1. My products meet the international quality standards. 2. My products are better than the products of international competitors. 3. I get a due return on my investment in the business. 	Likert Scale.
6.	Negligence of R&D	SMEs generally do not invest in R & D which is a basic requirement of building their brands.	<ol style="list-style-type: none"> 1. Research and development is my priority 2. I have a separate R&D section. 3. I allocate a budget for R&D. 4. R&D is not linked with branding. 	Likert Scale.
7.	Limited Resource Base	Less than required financial, physical, and intellectual resources hinder brand building in SMEs.	<ol style="list-style-type: none"> 1. I have employees who have skills in the area of branding. 2. Brand building requires special financial resources. 3. I have money to invest in the branding of my products. 	Likert Scale.
8.	Competition with Sophisticated Firms	Sophisticated/incumbent firms hold multiple resources including brands and market share. In the case of brands by latecomer firms, huge competition and retaliation are expected. This hinders brand building among SMEs/Latecomer Firms.	<ol style="list-style-type: none"> 1. If I introduce my product brand my firm will face serious reaction/threat from large scale international firms. 2. If I introduce my product brand I may lose business/orders from my current customers who buy my unbranded products. 3. Countermeasures of large-scale international firms may adversely affect my business. 4. Large-scale international firms hold such a strong resource base that my firm cannot compete with them. 	Likert Scale.
9.	Limited Vision of Entrepreneur	Brand building requires visionary leadership. Visionary leadership means to realize the importance of branding and directing a firm for its purpose. This is reported to be lacking among SMEs.	<ol style="list-style-type: none"> 1. I think the brand is the future of a firm. 2. I realize that brand can increase the worth of my firm manifold. 3. I know branding involves a number of challenges. 4. I believe that branding is good but not critical for the success of a business. 	Likert Scale.
10.	Limited Competence Base	Competence is the combination of resources and skills required for branding. Such competence is limited in SMEs, resulting in hindering brand building.	<ol style="list-style-type: none"> 1. I have the required resources to build my own brand. 2. I am skillful enough to build a brand. 3. Brand building does not need knowledge. 	Likert Scale.

11.	Inconsistent Organizational Policies	This point is linked with the point of Size and structure of the firm. With periodic change/division of ownership, firms do not have consistent policies and this affects branding decisions. As branding is a long-term procedure therefore inconsistent policies affect it adversely.	<ol style="list-style-type: none"> 1. Brand building requires consistent policies over a long period of time. 2. I think consistency in policies requires consistency of ownership. 3. I am not sure if my next generation will run the business in the same way I am running. 	Likert Scale.
12.	Risk Aversion of Firms	<p>Branding of instruments involves two types of risks; risk associated with the payment of damages due to any harmful effects of instruments to the patients and risk of reduction or elimination of orders from incumbent firms.</p> <p>The first type of risk may be covered through liability insurance which makes the cost of the instrument unaffordable. Surgical firms of Sialkot do not brand their products to avoid these two types of risks.</p>	<ol style="list-style-type: none"> 1. I am ready to take accountability for any harmful effects of my products. 2. If I get my products insured it will increase the cost of the product. 3. If I introduce my own brand I will not face problems from large-scale international firms. 	Likert Scale.
13.	Lack of International Distribution Network	The success of a brand depends on the availability of a distribution network in importing countries that could accept and support the brand. Such networks require huge investment and skillful effort which are currently beyond the capacity of a firm.	<ol style="list-style-type: none"> 1. I have my distribution channels in international markets. 2. The international distribution network is a prerequisite for brand building. 3. The establishment of a distribution network requires huge resource investment. 	Likert Scale.
14.	No linkages with End Users/ Local Industry/Hospitals	Surprisingly the surgical instruments firms have no linkages with the local health industry and this gap affects the understanding of a firm of the customer requirements. Surgical firms also do not supply to the local market which has affected their ability to have any local brand.	<ol style="list-style-type: none"> 1. My firm directly supplies to the local health industry 2. Surgeons and Physicians from the local health industry often visit my firm. 3. I understand the requirements of the local health industry. 4. There are forums where people from the surgical industry and health industry frequently meet. 	Likert Scale.
15.	Size of the Firm	The average size of a firm in industry is small which is a barrier for branding as far as resource base is concerned.	<ol style="list-style-type: none"> 1. According to local standards size of my firm is small. 2. The small size of my firm has restricted my resource base. 3. The small size of the firm is a barrier to the way of introducing the brand. 	Likert Scale.

16.	the of Structure of Firm	Firm structure is also a barrier. Most of the firms are family businesses without corporate structure. After every 20 years, there is the problem of succession which leads to the division of a firm into parts. This practice makes it difficult for a firm to afford branding.	<ol style="list-style-type: none"> 1. My firm is owned and operated by my family members. 2. Division of property among family members affects the ownership of a firm. 3. The division of a firm does not affect its resource base. 	
17.	Complacency of Entrepreneur	Since most entrepreneurs are successful without brands, success is measured through the profitability of the business and the upgrading of social status. Therefore they are complacent with their current position and are not willing to consider branding as a serious option.	<ol style="list-style-type: none"> 1. My business is a successful venture even without branding. 2. I do not think that I need to introduce a brand. 3. The brand will require extra effort without promising extra benefits. 	Likert Scale.
18.	History of Firms/ Industry as Vending Sector	The history of a firm does affect its future orientation. Since most of the firms in the industry have been working as vendors for years, therefore these are unable to get rid of the historical effects of acting as backline operators.	<ol style="list-style-type: none"> 1. I am comfortable working as a vendor because I have been doing it for years. 2. If I introduce a brand I will have to make considerable changes in my business model. 3. I have been working without a brand for a long time. 	Likert Scale.
19.	Negative Country of Origin Effect	The country-of-origin effect (COE), also known as the made-in image and the nationality bias, is a psychological effect describing how consumers' attitudes, perceptions, and purchasing decisions are influenced by products' country-of-origin labeling. It is reported that firms face difficulty as the Country-of-Origin Effect of Pakistan is negative	<ol style="list-style-type: none"> 1. Products of Pakistan origin have a positive image outside Pakistan. 2. I do not face any difficulty in the international market when I disclose that I am from Pakistan. 3. Pakistan's origin of my products is a hurdle in introducing the brand to the international market. 	Likert Scale.
20.	Weak national Intellectual Property Infrastructures	Branding requires strong intellectual property protection which is a missing link in Pakistan. Intellectual property arrangements are not only missing but also very inconvenient.	<ol style="list-style-type: none"> 1. I am afraid that the brand of my product can easily be stolen/copied/used by others. 2. If someone violates Intellectual Property Rights in Pakistan he is punished by law. 3. Pakistan's environment encourages Intellectual Property registration. 4. Intellectual Property Offices in Pakistan are very supportive. 5. There is an incentive for those who have Intellectual Property registration. 	Likert Scale.

21.	Lack of Government Support	Branding of instruments requires different certifications and laboratory tests. Such certifications and tests are very expensive and beyond the capacity of a single firm, even the industry. This requires the installation of highly sophisticated labs and machines. Such facilities are only possible with government support and investment. Currently government has shown no interest in such type of support.	<ol style="list-style-type: none"> 1. The government offers incentives for brand building. 2. The government has set up laboratories to meet quality standards in the International Market. 3. The foreign office of my country especially supports those firms which offer branded products. 4. Government departments facilitate branding efforts. 	Likert Scale.
22.	National Culture	National culture is also a barrier to branding in different ways. National culture promotes the behavior of preferring the short run to the long run and imitation to innovation. Branding requires a long-run innovation-based approach which is missing in the national culture and resultantly adversely affects the culture of a firm.	<ol style="list-style-type: none"> 1. The people of Pakistan introduce new ideas. 2. Most firms in Pakistan can produce low-grade copies of products. 3. People are mostly short-run-oriented in Pakistan. 4. Unbranded product is a normal thing in Pakistan 	Likert Scale.

Review of Items, Scale, and Expert Feedback

After the writing of items, these were sent to three experts for review and face validity. The experts were requested to review the items to ensure content adequacy (Hinkin et al., 1997) and determine whether these sufficiently reflect the factors. Per the experts' detailed comments, ten items of different factors were rephrased to be more understandable for the target audience, and four items were replaced with new items of the same number. Experts had two rounds of review before they showed their satisfaction. A total of seventy-nine (79) items were finalized, including eight (08) reverse/negatively worded items (Carpenter, 2018; Hinkin et al., 1997; Sekaran & Bougie, 2016).

After the approval of items, the scale was arranged as a full-scale questionnaire (Annexure 01) and sent to the same reviewers to determine if the length would be sufficient. One of the experts showed concerns about the length, while the other two recommended that the original respondents determine it during pilot testing.

Pilot Testing

After the finalization of the scale, it was pilot-tested on twenty respondents who voluntarily agreed to participate. It was ensured that a participant should own an exporting firm with at least ten years of experience in the export business. The participants were distributed questionnaires and asked to fill them in by taking as long as they wished within a day. All the participants, on average, took twenty minutes to complete the questionnaire. The following two issues were unanimously reported:

1. The questionnaire had too many items, making it very lengthy.
2. The questionnaire had redundant items.

One respondent reported understanding problems with a couple of items. All the reported issues were carefully considered and discussed with experts. After the discussion, it was decided that any effort to shorten the questionnaire by deleting items may affect its validity and reliability; therefore, the questionnaire was retained. On the issue of redundant items, literature support was sought, and it was found that item redundancy, to an extent, is essential for the scale's internal consistency (Hinkin et al., 1997). The further statistical reliability of the data collected

during pilot testing was calculated and found reliable with a Cronbach Alpha Value of more than 0.80. With this, it was decided to launch the questionnaire at full scale.

Data Collection

The Scale/Questionnaire was then sent to more than 1000 firms of SIMAP (Surgical Instruments Manufacturers Association of Pakistan) multiple times using in-person distribution, postal service, and emails. Complete responses from only 100 firms were received. Data collected on the scale was analyzed using Smart PLS as the technique/tool was suitable for the following situation:

1. In social science research, where the sample is small.
2. Data are not normal.
3. Research is exploratory, and the scale is developed for the first time (Hair, Sarstedt, Hopkins, & G. Kuppelwieser, 2014; Hair, Sarstedt, Pieper, & Ringle, 2012; Hair, Sarstedt, Ringle, & Mena, 2012; Hair, Hult, Ringle, & Sarstedt, 2016; Henseler et al., 2009; Ringle et al., 2012)

Scale Purification

For the analysis, recommendations of Hair et al. (2014), Hair et al. (2012), Hair et al. (2012), Hair et al. (2016), Henseler et al. (2009), Ringle et al. (2012) have been followed. All measurement models of the scale are reflective. For a reflective measurement model, internal consistency reliability using composite reliability with values between 0.60 and 0.70 for exploratory research/scale development, Indicator reliability with loadings ideally above 0.70 with exceptions to allow items with loading above 0.40 for new scales, Convergent validity with AVE (Average Variance Extracted) higher than 0.50, Discriminant validity using Fornell–Larcker criterion and cross-loadings which in essence require an indicator to show higher correlation/loading with its latent construct than others have been suggested as evaluation criteria (Ringle et al., 2015).

A total of 100 responses complete from all aspects were received. The sample size is smaller than the generally acceptable standard of 5:1 but sufficient as per the criteria discussed by Hair et al. (2016, p. 20). The discussed criterion requires "*10 times the largest number of structural paths directed at a particular construct in the structural model.*" In our case, any construct having the most significant items is 5; utilizing this criterion, the acceptable sample size is 50. The larger the sample size, the better it is, but in social science, the sample size is generally small, and Smart PLS/PLS SEM works perfectly fine with small sample sizes (Ringle et al., 2015).

Generally, Cronbach's alpha is considered a valid measure of reliability. In contrast, Hair et al. (2016) have preferred Composite Reliability as the measure of reliability with values between 0.60 to 0.70 as acceptable in the case of exploratory research in PLS-SEM. Hair et al. (2016) have recommended AVE (Average Variance Extracted) and item loadings as measures of convergent validity. *Convergent validity is the extent to which a measure correlates positively with alternative measures of the same construct.* They have recommended AVE above 0.5 as acceptable while any item, at the first step, is 0.40 and, ideally, above 0.70. Items with a loading value below 0.40 are recommended to be deleted in all cases, while items below 0.70 can only be deleted if not theoretically sound, and deletion improves AVE.

At first, the PLS Algorithm was run with the standard default settings on the initial model having 22 constructs and 79 items, and the following results were obtained. According to Table 2, only ten constructs out of 22 had Composite Reliability of above 0.60, the recommended acceptable value. Regarding Convergent Validity, only 04 out of 10 reliable constructs had above 0.50 AVE value.

Table 2 Validity & Reliability Statistics

Sr.	Factors	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted
1.	Competition with sophisticated Firms	0.706	0.891	0.793	0.505
2.	Complacency of Entrepreneur	-0.111	0.460	0.064	0.482
3.	History of firms/industry as vending sector	0.465	0.473	0.732	0.480
4.	Inconsistent Organizational Policies	0.168	-0.107	0.488	0.322
5.	Lack of Government Support	0.823	0.631	0.797	0.507
6.	Lack of core competitiveness	0.168	9.636	0.550	0.505
7.	Lack of international distribution network	-0.507	-0.954	0.113	0.350
8.	Lacking strategic awareness of brand management	0.351	0.286	0.362	0.245
9.	Limited Competence Base	-0.059	0.623	0.348	0.353
10.	Limited Resource Base	0.292	-0.128	0.463	0.337
11.	Limited Vision of the Entrepreneur	0.255	0.265	0.545	0.371
12.	National Culture	0.220	0.918	0.634	0.454
13.	Negative Country of Origin Effect	-0.361	0.155	0.547	0.424
14.	Neglect of international demands	-0.120	0.034	0.015	0.280
15.	Negligence of R&D	0.677	0.742	0.802	0.512
16.	No linkages with End Users/ Local Health Industry/Hospitals	0.673	-0.453	0.533	0.307
17.	Organizational Culture	0.721	0.823	0.820	0.499
18.	Weak national Intellectual Property Infrastructures	0.589	0.772	0.735	0.488
19.	Risk Aversion of Firms	0.042	-0.197	0.083	0.318
20.	Serious Product Homogeneousness	0.691	0.773	0.799	0.574
21.	Size of the Firm	0.762	-1.183	0.118	0.231
22.	Structure of the Firm	0.429	0.969	0.630	0.426

Only 57 items have outer loadings above 0.40, while 22 have less than 0.40. Hair et al. (2016) recommended that items below 0.40 loadings be deleted, and the PLS Algorithm was rerun; the following results were obtained. Deletion of 23 items below 0.40 loadings substantially improved Composite Reliability for 07 more constructs and AVE for 09 constructs, as shown in Table 3 below. There are now a total of 16 constructs having Composite Reliability and AVE in the acceptable range. As a result of the deletion of items, there are three constructs with a single item. Constructs with a single item are acceptable in PLS-SEM, according to Hair Jr. et al. (2016).

Table 3 Validity & Reliability Statistics after Deleting 23 Items

Sr.	Factors	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
1.	Competition with sophisticated Firms	0.706	0.893	0.794	0.505
2.	Complacency of Entrepreneur	-0.111	0.458	0.065	0.482
3.	History of firms/industry as vending sector	0.465	0.473	0.732	0.480
4.	Inconsistent Organizational Policies	-0.033	-0.033	0.658	0.492
5.	Lack of Government Support	0.823	0.638	0.798	0.509
6.	Lack of core competitiveness	1.000	1.000	1.000	1.000
7.	Lack of international distribution network	1.000	1.000	1.000	1.000

8.	Lacking strategic awareness of brand management	0.228	0.231	0.720	0.564
9.	Limited Competence Base	1.000	1.000	1.000	1.000
10.	Limited Resource Base	0.165	0.168	0.703	0.544
11.	Limited Vision of the Entrepreneur	0.707	0.735	0.871	0.771
12.	National Culture	0.694	0.937	0.800	0.579
13.	Negative Country of Origin Effect	0.519	0.562	0.801	0.670
14.	Neglect of international demands	-0.644	0.397	0.006	0.621
15.	Negligence of R&D	0.677	0.742	0.802	0.512
16.	No linkages with End Users/ Local Health Industry/Hospitals	0.636	1.395	0.809	0.687
17.	Organizational Culture	0.721	0.822	0.820	0.614
18.	Weak national Intellectual Property Infrastructures	0.823	0.764	0.843	0.585
19.	Risk Aversion of Firms	0.168	-0.210	0.043	0.456
20.	Serious Product Homogeneousness	0.691	0.772	0.799	0.574
21.	Size of the Firm	0.762	-1.165	0.121	0.232
22.	Structure of the Firm	0.549	1.763	0.753	0.625

Out of 22 constructs, 14 (1, 5, 8, 10, 11, 12, 13, 15, 16, 17, 18, 20, 22) fulfill the criteria of both composite reliability values of above 0.70 and AVE of above 0.50. One construct (3) fulfills the criteria of composite reliability with a value of 0.70 but needs to fulfill the criteria of AVE as its value is 0.48. Though literature categorically only accepts a construct's convergent validity at a value above 0.50, it is preferred to retain this construct as it meets the criteria of reliability and discriminant validity, and its shortfall is also marginal and may be ignored. Another reason for retaining this construct, the History of firms/industry as a vending sector, is its theoretical significance as it has literature and data support. Hair et al. (2016) have also recommended retaining indicators based on theoretical soundness despite weak statistical support; if indicators can be retained, why not constructs? Another construct, Inconsistent Organizational Policies (4), also has an acceptable reliability value, above 0.60 as allowed for exploratory research/scale development (Ringle et al., 2015), but AVE slightly below 0.50 as 0.492. The construct has also been retained on the same logic as given in the case of construct 3. Constructs 6, 7, and 9 with single items are also retained based on acceptable loadings. Most items have loadings above 0.40, which is acceptable in exploratory research (Hair et al., 2016). It is pertinent to mention that Hulland (1999) in Hair et al. (2016) has argued that in the case of newly developed scales in social sciences, the researchers have frequently observed weaker outer loadings.

Table 4 shows that a total of 18 constructs have been statistically supported. It is an essential contribution to providing a considerable foundation for future studies.

Table 4 Statistically Significant Constructs and Items of the Scale

Sr.	Construct	Item Codes	Items	Composite Reliability	Average Variance Explained (AVE)	Discriminant Validity
1.	Competition with sophisticated Firms Competition with sophisticated Firm's Cont..	CSF1 CSF2 CSF3 CSF4	<p>1. If I introduce my own product brand my firm will face serious reaction/threat from large scale international firms.</p> <p>2. If I introduce my own product brand I may lose business/orders from my current customers who buy my unbranded products.</p> <p>3. Countermeasures of large-scale international firms may adversely affect my business.</p> <p>4. Large-scale international firms hold such a strong resource base that my firm cannot compete with them.</p>	0.794	0.505	Yes
2.	History of Firms/ Industry as Vending Sector	HV1 HV2 HV3	<p>1. I am comfortable working as a vendor because I have been doing it for years.</p> <p>2. If I introduce a brand I will have to make considerable changes in my business model.</p> <p>3. I have been working without a brand for a long time.</p>	0.732	0.480	Yes
3.	Inconsistent Organizational Policies	IOP1 IOP3	<p>1. Brand building requires consistent policies over a long period of time.</p> <p>2. I am not sure if my next generation will run the business in the same way I am running.</p>	0.658	0.492	Yes
4	Lack of Support Government	LGS1 LGS2 LGS3 LGS4	<p>1. The government offers incentives for brand building.</p> <p>2. The government has set up laboratories to meet quality standards in the International Market.</p> <p>3. The foreign office of my country especially supports those firms which offer branded products.</p> <p>4. Government departments facilitate branding efforts.</p>	0.798	0.509	Yes
5.	Lack of Core Competit iveness	LCC1	1. My products meet the international quality standards.	1.000	1.000	Yes

6.	Lack of International Distribution Network	LID3	1. The establishment of a distribution network requires huge resource investment.	1.000	1.000	Yes
7.	Lacking strategic Awareness of Brand	LAB M1 LAB M2	1. I know brand building requires long-term planning. 2. I have the required marketing skills for brand building.	0.720	0.564	Yes
8.	Limited Resource Base	LRB1 LRB2	1. I have employees who have skills in the area of branding. 2. Brand building requires special financial resources.	0.703	0.544	Yes
9.	Limited Competence Base	LCB1	1. If I introduce my own product brand my firm will face serious reaction/threat from large-scale international firms	1.000	1.000	Yes
10.	Limited Vision of the Entrepreneur	LVE1 LVE2	1. I think the brand is the future of a firm. 2. I realize that the brand can increase the worth of my firm's manifold.	0.871	0.771	Yes
11.	National Culture	NC2 NC3 NC4	1. At most firms in Pakistan can produce low-grade copies of products. 2. People are mostly short-run oriented in Pakistan. 3. Unbranded product is a normal thing in Pakistan.	0.800	0.579	Yes
12.	Negative Country Origin Effect	COE2 COE3	1. I do not face any difficulty in the international market when I disclose that I am from Pakistan. 2. The Pakistani origin of my products is a hurdle in introducing the brand to the international market.	0.801	0.670	Yes
13.	Negligence of R&D	NRD1 NRD2 NRD3 NRD4	1. Research and development is my priority. 2. I have a separate R&D section. 3. I allocate a budget for R&D. 4. R&D is not linked with branding.	0.802	0.512	Yes
14.	No linkages with End Users/Local Health	NLE1 NLE2	1. My firm directly supplies to the local health industry. 2. Surgeons and Physicians from the local health industry often visit my firm.	0.809	0.687	Yes

15.	Organizational Culture	OC1 OC2 OC4 OC5	<ol style="list-style-type: none"> 1. Employees have a role to play in the decision-making of my firm. 2. Employees of my firm are free to give ideas. 3. I encourage my people to think and suggest new ideas. 4. I encourage linkages with other organizations which can help in learning new things. 	0.820	0.614	Yes
16.	Serious Homogeneity of Product	SPH1 SPH2 SPH3	<ol style="list-style-type: none"> 1. Most of the firms in the industry produce similar types of products. 2. Because of homogeneity my business faces strong competition from other firms in the industry. 3. Due to homogeneity it is difficult to avoid competition from other firms. 	0.799	0.574	Yes
17.	Structure of the Firm	SOF2 SOF3	<ol style="list-style-type: none"> 1. The division of property among family members affects the ownership of a firm. 2. The division of a firm does not affect its resource base. 	0.753	0.625	Yes
18.	Weak national Property Infrastructures	WIP2 WIP3 WIP4 WIP5	<ol style="list-style-type: none"> 1. If someone violates Intellectual Property Rights in Pakistan he is punished by law. 2. Pakistan's environment encourages Intellectual Property registration. 3. Intellectual Property Offices in Pakistan are very supportive. 4. There is an incentive for those who have Intellectual Property registration. 	0.843	0.585	Yes

Higher Order Distribution

The above 18 statistically significant constructs can be organized under four higher-order factors for parsimony. The construction of higher-order factors has been discussed in detail by Sandhu and Azhar (2020) following Table 5 is also taken from there:

Table 5 Higher Order Factors

Sr.	Main Factors/Groups	Factors/Variables
A.	Organizational Factors Elements inside the organization that affect its working are known as internal or organizational factors. These are also known as characteristics of an organization (Johnson, 2016).	Inconsistent Organizational Policies Size of the Firm Structure of the Firm History of firms/industry as vending sector Organizational Culture

		Limited Competence Base Limited Resource Base Negligence of R&D Lack of core competitiveness
B.	Entrepreneurial Factors “Entrepreneurs work under the constraints of their environment -- the political economy. Five factors will be key to entrepreneurial success: creativity, tolerance for risk, responsiveness to opportunities, leadership, and the ability to take advantage of the rights afforded to you.”	Risk Aversion of Firms Complacency of Entrepreneur Limited Vision of the Entrepreneur
C.	Marketing Factors According to the American Marketing Association marketing includes all activities of an organization that are concerned with the creation, communication, and delivery of value to the customer with a focus on maintaining long-term profitable relationships (Kotler & Armstrong, 2013).	No linkages with End Users/ Local Health Industry/Hospitals Neglect of international demands Lack of international distribution network Serious product homogeneousness Lacking strategic awareness of brand management
D.	Environmental Factors All the elements outside an organization have the potential to affect its working environment (Daft & Marcic, 2016).	Weak National Intellectual Property Infrastructures Lack of Government Support Competition with sophisticated Firms Negative Country of Origin Effect National Culture

Concluding Remarks

Policy institutions and industry organizations can use this multidimensional scale to know the barriers to product branding in those firms that have been engaged in international trade for years but have yet to graduate to the level of OBM from OEM. Annexure 01 shows the purified scale having all 46 items. The initial scale with all 79 items can be obtained by writing to the author 01.

References

- Bryman, A., & Bell, E. (2015). *Business research methods*: Oxford University Press, USA.
- Carpenter, S. (2018). Ten Steps in Scale Development and Reporting: A Guide for Researchers. *Communication Methods and Measures*, 12(1), 25-44.
- Colman, A. M., Norris, C. E., & Preston, C. C. (1997). Comparing rating scales of different lengths: Equivalence of scores from 5-point and 7-point scales. *Psychological Reports*, 80(2), 355-362.
- Creswell, J. W. (2007). Five qualitative approaches to inquiry. *Qualitative inquiry and research design: Choosing among five approaches*, 2, 53-80.
- Hair, J. F., Sarstedt, M., Pieper, T. M., & Ringle, C. M. (2012). The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications. *Long range planning*, 45(5-6), 320-340.

- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the academy of marketing science*, 40(3), 414-433.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage Publications.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing *New challenges to international marketing* (pp. 277-319): Emerald Group Publishing Limited.
- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, 21(1), 100-120.
- Finstad, K. (2010). Response interpolation and scale sensitivity: Evidence against 5-point scales. *Journal of Usability Studies*, 5(3), 104-110.
- Ghiselli, E. E. (1955). The measurement of occupational aptitude. *University of California Publications in Psychology*.
- Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological review*, 63(2), 81.
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's Comments: A Critical Look at the Use of PLS-SEM in "MIS Quarterly". *MIS quarterly*, iii-xiv.
- Ringle, C. M., Da Silva, D., & Bido, D. d. S. (2015). Structural equation modeling with the SmartPLS.
- Sandhu, M.R.S. (2020). What hinders international SMEs from introducing own product brands in International market(s): A Study of Surgical Industry of Sialkot, Pakistan. Unpublished PhD Thesis.
- Sandhu, M. R. S, & Azhar, T. M. (2020). Four-Factor Explanation on Working of SMEs without Product Brands: A Study of Surgical Industry of Pakistan Using Higher Order Model in Smart PLS. *Paradigms*, 14(1), 194-213
- Sandhu, M. S., & Azhar, T. M. (2019). Barriers to branding in SMEs: An exploration of surgical industry of Sialkot, Pakistan. *Paradigms*, 13(1), 134-142.
- Saunders, M. N. (2011). *Research methods for business students*, 5/e: Pearson Education India.
- Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill building approach*: John Wiley & Sons.
- Symonds, P. M. (1924). On the Loss of Reliability in Ratings Due to Coarseness of the Scale. *Journal of Experimental Psychology*, 7(6), 456.

Annexure 01 (Refined Scale)**Questionnaire**

You are required to record your response in the scale given in front of every statement.

The scale measures your response from strongly disagree to strongly agree.

Personal Information (Part 1)

Gender	<input type="checkbox"/> Male	<input type="checkbox"/> Female				
Education	Primary School	Elementary /Middle School	High School/Matriculation	College/Intermediate	Diploma	University
Marital Status	<input type="checkbox"/> Single	<input type="checkbox"/> Married	<input type="checkbox"/> Divorced			
Age						
Tenure in Current position						
Major Clients	<input type="checkbox"/> Local Only	<input type="checkbox"/> Majority Local	<input type="checkbox"/> 50-50	<input type="checkbox"/> Majority Foreign	<input type="checkbox"/> Foreign Only	
Current Designation						
SDA = Strongly Disagree	D =Disagree	DS = Disagree Somewhat	N = Neutral	AS = Agree Somewhat	A = Agree	SA = Strongly Agree
1	2	3	4	5	6	7

Please indicate your agreement with each statement by circling a number on a scale of 1 to 7, with 1 representing **Strongly Disagree (SD)** and 7 representing **Strongly Agree (SA)**.

Most of the firms in the industry produce similar types of products.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Because of homogeneousness, my business faces strong competition from other firms in the industry.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Due to homogeneousness, it is difficult to avoid competition from other firms	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I know brand building requires long-term planning.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I have the required marketing skills for brand building.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Employees have a role to play in the decision-making of my firm.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Employees of my firm are free to give ideas.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I encourage my people to think and suggest new ideas.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I encourage linkages with other organizations which can help in learning new things.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
My products meet the international quality standards.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Research and development is my priority.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I have a separate R&D section.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I allocate a budget for R&D.		SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
R&D is not linked with branding.		SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
I have employees who have skills in the area of branding.		SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Brand building requires special financial resources.		SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
If I introduce my own product brand my firm will face serious reaction/threat from large scale international firms.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
If I introduce my own product brand I may lose business/orders from my current customers who buy my unbranded products	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Countermeasures of large-scale international firms may adversely affect my business.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Large-scale international firms hold such a strong resource base that my firm cannot compete with them.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I think the brand is the future of a firm.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
I realize that brand can increase the worth of my firm manifold.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	
Brand building requires consistent policies over a long period of time.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7	

I am not sure if my next generation will run the business in the same way I am running.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
The establishment of a distribution network requires huge resource investment.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
My firm directly supplies to the local health industry.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Surgeons and Physicians from the local health industry often visit my firm.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Division of property among family members affects the ownership of a firm.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
The division of a firm does not affect its resource base.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
I am comfortable working as a vendor because I have been doing it for years.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
If I introduce a brand I will have to make considerable changes in my business model.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
I have been working without a brand for a long time.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
I do not face any difficulty in the international market when I disclose that I am from Pakistan.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Pakistan's origin of my products is a hurdle in introducing the brand to the international market.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
If someone violates Intellectual Property Rights in Pakistan he is punished by law.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Pakistan's environment encourages Intellectual Property registration.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Intellectual Property Offices in Pakistan are very supportive.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
There is an incentive for those who have Intellectual Property registration.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
The government offers incentives for brand building.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
The government has set up laboratories to meet quality standards in the International Market.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
The foreign office of my country especially supports those firms which offer branded products.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Government departments facilitate branding efforts.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Most firms in Pakistan can produce low-grade copies of products.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
People are mostly short-run-oriented in Pakistan.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7
Unbranded product is a normal thing in Pakistan.	SDA 1	D 2	DS 3	N 4	AS 5	A 6	SA 7