

DEVELOPING A CONTEXT SPECIFIC MULTIDIMENSIONAL SCALE TO MEASURE THE SUSTAINABILITY OF FAMILY OWNED INDIAN MSMEs

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Abstract: *The importance of the family business is globally visible, contributing approximately 70% to 90% of the global GDP. In India, family-owned businesses (FOBs), particularly Micro, Small, and Medium Enterprises (MSMEs), are dominant, contributing approximately 30% to the Indian economy and employing around 111 million people. Given this significant role, understanding the factors crucial for the sustainability of family-owned Indian MSMEs is essential. This study addresses a critical research gap: the absence of a validated, context specific measuring scale to assess sustainability within this area. The objective is to develop and validate a multidimensional scale specifically tailored for Indian family-owned MSMEs, strictly adhering to the systematic approach suggested by Churchill (1979). Four primary variables were identified: Family Goals, Succession Planning, Family Culture, and Entrepreneurial Orientation, as variables of sustainability. Initial phases, including item generation and a pilot study, demonstrated internal consistency through Cronbach's Alpha and Confirmatory Factor Analysis (CFA), thus confirming the items' theoretical coherence and reliability. This process provides a reliable, scientifically developed multi-item scale ready for large-scale data collection, which is useful for academicians and policy makers.*

Keywords: *Family Owned MSMEs, India, Sustainability, Scale Development, Churchill (1979), Confirmatory Factor Analysis*

1. Introduction

The importance of the family business is globally visible with the contributions to the respective economies and also more importantly, the generation of employment. The contribution of the global GDP coming from family business is in the approximate range of 70% to 90% (Luo, 2019; Priya, 2021). The figure 1 below provides the details of the contribution of the family businesses to their respective economies.

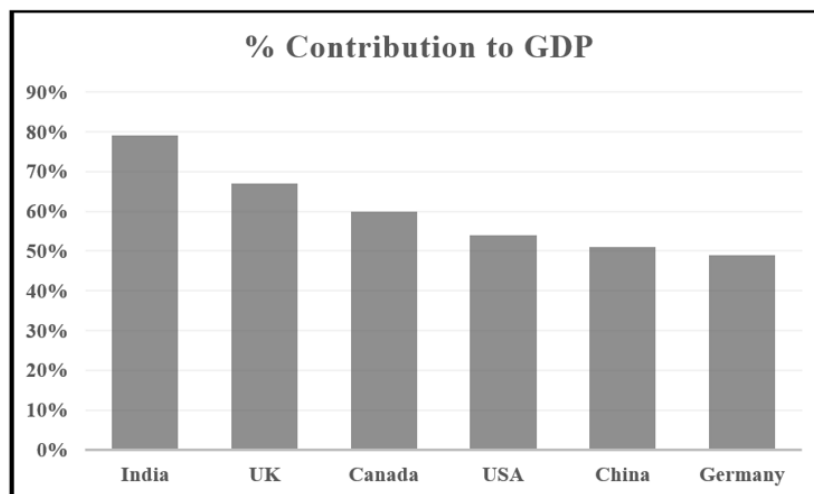


Figure 1. Visual Capitalist (2024). Family-Owned Businesses by Share of GDP

From the above figure it is evident that Indian economy is dominated with the contribution from the family-owned businesses (FOB). They are contributing 79 % to the Indian economy. Also, they are one of the major contributors in terms of employment (Takahashi & Srivastava, 2025; Malik, 2018, Kota & Singh, 2016). Indian economy is the world's third largest source or hub for FOBs with almost 111 companies having valuation of USD 840 billion (Takahashi & Srivastava, 2025). There is also another important element attached to the India FOBs, that is micro, small and medium enterprises (MSMEs). MSMEs in India, according to Ministry of MSME, Government of India, is defined as *Micro enterprises are those who has investment in plant and machinery or equipment of not more than Rs. 2.5 crore and annual turnover not more than Rs. 10 crore, small enterprises are those who has investment in plant and machinery or equipment of not more than Rs. 25 crore and annual turnover not more than Rs. 100 crore and medium enterprises are those who has investment in plant and machinery or equipment of not more than Rs. 125 crore and annual turnover not more than Rs. 500 crores* (Ministry of Micro, Small & Medium Enterprises [MSME], n.d.).

The contribution of MSMEs in Indian economy comes from the fact that they are the major contributor to the country's employment, GDP, exports, regional development, entrepreneurship development, innovation, income distribution and support to the large enterprises. They contribute approximately 30 % to the Indian economy, 45 % of the total exports and also reduces the urban concentration and also forms the important part of the supply chain of large corporation (Nath, 2024).

The major portion of family-owned enterprises in India are MSME in nature ("A Diagnostic Analysis of Problems of MSMEs in India", n.d., Jayakumar (2023)). Family owned MSMEs contribute to almost 30 % to the Indian economy. They employ almost 111 million people, both directly and indirectly and in rural and urban areas. (Nurunnabi and Kusz, 2021).

Though there are numerous papers which talks about the contribution and importance of MSMEs in various economies. Also, at the same time there are researches in the area of family-owned business, but there are almost nil researches are available in the area of family owned MSMEs in India and its contribution to the economy, GDP, employment etc.

Given the importance of family owned MSMEs in India, understanding their sustainability is of academic and policy importance. There is complete absence of a validated, context specific measuring scale that limits the understanding of impact of factors within the domain of family owned MSMEs. Existing studies rely heavily on fragmented scales which were developed in another context and when applied to this domain, fails to provide the required results.

Therefore there is a need of comprehensive, and scientifically developed scale that can measure the impact of socio economic, cultural and other such factor to the sustainability of Indian family owned MSMEs. Developing a scale demands a systematic approach such as suggested by Churchill (1979) which laid importance to domain specification, item generation and various other such steps. It also emphasised that identification of variables has to be based on rigorous literature review which provides the strong foundation of development of scale.

The present study addresses this gap by developing and validating a multidimensional scale specifically tailored to the need of assessment of sustainability of family owned Indian MSMEs. By doing so, this paper provides a strong literature on the above said domain which can be useful for both academicians and policy makers in understanding the impact of factors responsible for sustainability of family owned Indian MSMEs.

2. Conceptual foundation and theoretical background

Since the objective of this paper is to develop a scale / questionnaire in the area / theme of factors which effects the sustainability of family owned MSMEs; in order to achieve that, the model which we used was from the seminal paper "A Paradigm for Developing Better Measures of Marketing Constructs" by Gilbert A. Churchill, Jr.'s (1979). The reason for opting this paper as model paper for development of scale / questionnaire was, that, this paper provides a unified and comprehensive framework that is crucial for the development of scale / questionnaire.

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To be more specific, the reason for opting this paper over others was, that, this directly addresses the flaw which others failed to identify was the presence of strong measurement criteria like reliability and validity failing which, according to Churchill (1979), will lead a common pitfall known as "garbage in, garbage out" (GIGO). Churchill's work is also more important because it structures the previously scattered measurement tools and literature into a comprehensive, integrated and step by step procedure so that a multi-item scale can be purified and developed scientifically. According the Churchill (1979), the steps involved in the development of a muti-item scale are given in figure 2. We developed the scale which is given in coming paragraphs by keeping these steps as a base.

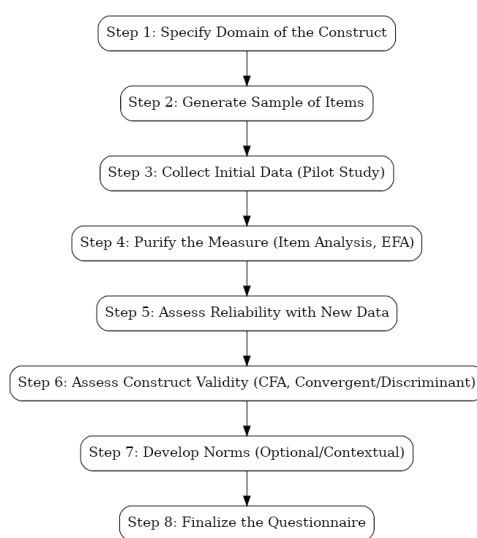


Figure 2. Flow chart showing the process involved in multi-item scale development by Churchill (1979).

2.1 Specify the domain of construct:

According to Churchill (1979), the quality of scale development starts with quality of literature which has been reviewed and applied in identification and definition of constructs / variables. The purpose of the step should be to clearly specify, that what is to be included in the definition and what is to be excluded so that ambiguity with respect to the understanding of the construct should be avoided and if there is any, it should be removed. According to Churchill, the definition of construct should act as “means rather than ends in itself”. Hence, the first and most important step in scale development is defining the variables or “specifying the domain of construct”.

Moving as per the steps, suggested by Churchill, we undertook the literature review to clearly specify and define the domain of construct. The summary of process as outlined by Goodell et al. (2021) of finding the relevant paper is given in the table 1 below:

Table 1. Search criteria and article selection)

	Search criteria	Reject	Accept
a	Search engine: <i>Scopus</i>		
b	Search date: <i>14 April 2025</i>		
c	Search term: <i>KEY (“family business”) OR KEY (“family owned business”) OR KEY (“family enter?”)</i>		3633
d	Subject area: <i>“Business, Management and Accounting”, “Social Sciences”</i>	503	3130
e	Document type: <i>“Articles”, “Conference papers”, and “Book chapter”</i>	181	2949
f	Access: <i>All Open Access</i>	2088	861
g	Year of Publication: <i>2010-2025</i>	14	847
h	Publication Stage: <i>Final</i>	16	831
i	Keywords: <i>Family Business, Family Businesses, Succession, Innovation, Family Firms, Sustainability, Gender, Entrepreneur, Entrepreneurial Orientation, Firm Performance, Family Structure, Family Business Succession, Familiness, Decision Making, Family-owned Business, Family Firm, Succession Planning,</i>	48	783

	<i>Family Involvement, Women, Small Family Business, Family Ownership, Family Business Management, Family-owned Businesses, Family, Business Family, Family Entrepreneurship, Family Dynamics, Business Families, Small Family Businesses, Small And Medium-sized Enterprise, Family Control, Family Business Groups.</i>		
j	Language screening: <i>Include documents in English only</i>	40	743
k	Source type: <i>Journal, Conference proceedings, Books</i>	26	717
l	Content screening: <i>Include articles if “Titles, abstracts, and keywords” indicate relevance to scope of study</i>	0	717

In the above table the databased searched was SCOPUS instead of other database like Web of Science because Scopus has wider coverage of peer reviewed research papers from peer reviewed journals and also there is intense representation of quality research papers from across the discipline and also from across the regions and countries (Patnaik et al., 2021)

As mentioned in the table 1 above, to find out the relevant paper we passed the keyword “*family business*”, “*family owned business*”, “*family enter?*”. The subject area chosen for the study was “*Business, Management and Accounting*”, “*Social Sciences*”, since we our research from that area of study and we can get the relevant research paper from those areas. In order to get wider area of study we chose “*Articles*”, “*Conference papers*”, and “*Book chapter*” and all of them were of “All open Access” type so that it can easy and approachable for us to go through those papers. Further, to get the latest development in the required field we chose to cover that paper which must of recent years and hence the period of fifteen years was chosen as the period of coverage for paper. To get the specific result from the data the following keywords were used “*Family Business, Family Businesses, Succession, Innovation, Family Firms, Sustainability, Gender, Entrepreneur, Entrepreneurial Orientation, Firm Performance, Family Structure, Family Business Succession, Familiness, Decision Making, Family-owned Business, Family Firm, Succession Planning, Family Involvement, Women, Small Family Business, Family Ownership, Family Business Management, Family-owned Businesses, Family, Business Family, Family Entrepreneurship, Family Dynamics, Business Families, Small Family Businesses, Small And Medium-sized Enterprise, Family Control, Family Business Groups*”, so that specificity of the research should not be diluted. These keywords almost covered all the aspect of the desired field of research. The language of search papers chosen was English, as most of the researches done in the area are in English.

Thus, at the end, after applying all the above filtering criteria and others as mentioned in table1 above, the final corpus of 717 research paper was relevant to the objective of the study. The final corpus of 717 papers was exported to CSV format and was taken to VOSviewer for bibliometric analysis and to identify and establish the constructs/variable. VOSviewer is considered as powerful and best tool to conduct the bibliometric analysis due to its capabilities to generate, visualise and analyse bibliometric data enabling the researchers to efficiently understand the research gap, trends, relationship amongst the papers and clustering (Van Eck & Waltman, 2016)

Table 2: Thematic Cluster for identification of variables / constructs

Themes identified	Paper Title	Authors	Year	Citations
Family Goals	Reflections on family firm goals and the assessment of performance	Chua J.H., Chrisman J.J., De Massis A., Wang H.	2018	110
	“Where do you want to take your family firm?” A goal hierarchy perspective of family firm internationalization	Basco R.	2017	108
	The Heterogeneity of Family Firms in CSR Engagement: The Role of Values and Stewardship	Marques P., Presas P., Simon A.	2014	214
	Corporate social responsibility in family firms: Status and future directions of a fragmented field	Mariani M.M., Al-Sultan K., De Massis A.	2023	112
	To Merge, Sell, or Liquidate? Socioemotional Wealth, Identity, and Family Business Exit Strategies	Chirico F., Gómez-Mejía L.R., Hellerstedt K., Withers M.	2020	141

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	Sustainability in tourism as an innovation driver: An analysis of family firms	Elmo G.C., Arcese G., Valeri M., Poponi S., Pacchera F.	2020	107
	Sustainability as a driver for value creation: A qualitative comparative analysis	Broccardo L., Zicari A.	2020	117
	Family businesses under COVID-19: Inspiring models for facing the crisis	Le Breton-Miller I., Miller D.	2022	56
Succession planning	Family firms in the global economy: Toward a deeper understanding of internationalization determinants	De Massis A., Frattini F., Majocchi A., Piscitello L.	2018	326
	When does transitioning from family to professional management improve firm performance?	Chang S.-J., Shim J.	2015	160
	Family control and family firm valuation by family CEOs: The importance of intergenerational family involvement	Zellweger T.M., Kellermanns F.W., Chrisman J.J., Chua J.H.	2012	653
	The pursuit of international opportunities in family firms: Generational differences and the role of knowledge-based resources	Fang H., Kotlar J., Memili E., Chrisman J.J., De Massis A.	2018	133
	Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system	Rondi E., De Massis A., Kotlar J.	2019	169
Family Culture	The Heterogeneity of Family Firms in CSR Engagement: The Role of Values and Stewardship	Marques P., Presas P., Simon A.	2014	214
	Managing the Tradition and Innovation Paradox in Family Firms: A Configurational Approach	Erdogan I., Rondi E., De Massis A.	2020	252
	Women's involvement in family firms: Progress and challenges	Campopiano G., De Massis A., Rinaldi F.R., Sciascia S.	2017	159
	Women leaders and firm performance in family business: Evidence from India	Chadwick I.C., Dawson A.	2018	113
	To Merge, Sell, or Liquidate? Socioemotional Wealth, Identity, and Family Business Exit Strategies	Chirico F., Gómez-Mejía L.R., Hellerstedt K., Withers M.	2020	141
	What Do We Know About Business Families? Setting the Stage for Leveraging Family Business Research Through Business Family Lenses	Combs J.G., Shanine K.K., Burrows S., Allen J.A.	2020	97
	Trust and reputation in family businesses: A systematic literature review	Chaudhary S., Dhir A., Ferraris A., Bertoldi B.	2021	111
Entrepreneurial Orientation	Managing the Tradition and Innovation Paradox in Family Firms: A Configurational Approach	Erdogan I., Rondi E., De Massis A.	2020	252
	Kinship and business: how entrepreneurial households facilitate business development	Alsos G.A., Carter S., Ljunggren E.	2014	140
	Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system	Rondi E., De Massis A., Kotlar J.	2019	169
	When does transitioning from family to professional management improve firm performance?	Chang S.-J., Shim J.	2015	160
	Family ownership and acquisition behavior in publicly-traded companies	Miller D., Breton-Miller I.L., Lester R.H.	2010	320
	Sustainability as a driver for value creation: A qualitative comparative analysis	Broccardo L., Zicari A.	2020	117
	Women leaders and firm performance in family business: Evidence from India	Chadwick I.C., Dawson A.	2018	113
	Family Business Growth Around the World	Miroshnychenko I., De Massis A., Miller D., Barontini R.	2021	135
	Clarifying the strategic advantage of familiness: Unbundling its dimensions and highlighting its paradoxes	Irava W.J., Moores K.	2010	96
	Sustainability in tourism as an innovation driver: An analysis of family firms	Elmo G.C., Arcese G., Valeri M., Poponi S., Pacchera F.	2020	107
	Family businesses under COVID-19: Inspiring models for facing the crisis	Le Breton-Miller I., Miller D.	2022	56

Table 2 above provides a thematic clustering identified by VOSviewer based on the principles of bibliographic coupling. Bibliographic coupling is crucial in identifying the variables in a particular area of research, because bibliographic coupling is based on the assumption that if two publications share the common references, then they are also similar in their content and theme (Kessler, 1963). Also, bibliographic coupling focusses on grouping the publication on the basis of their thematic cluster which is based on shared references (Zupic & ˇCater, 2015). Moreover, bibliometric analysis focusses on more recent works which may not have gained that much importance / references and hence which is sometimes overlooked by other bibliometric analysis tool like co citation analysis (Donthu et al., 2021). Thus, for our work we took the help of bibliographic coupling for thematic clustering for identifying the independent variable which are crucial and important for sustainability of family owned small, medium and micro enterprises.

Thematic cluster 1 consisted of articles which can be grouped together into a theme called “Family goals”. This cluster primarily (but not all) focusses on that non financial objective that binds and motivates a family firm which can be a suitable point for a family business to get distinguished from non family business. Goals such as socio emotional wealth (SEW), family identity etc are those points which significantly influence crucial and strategic decision of family owned MSMEs. Key influential articles under this theme were one from Chua et al. (2018) with 110 citations. This paper is important and pivotal from the aspect that it explained how unique family firms are and it further explored that how important for a family firm is the non financial goals while taking the strategic decision to move the firm forward. While Marques et al. (2014) in this work "The Heterogeneity of Family Firms in CSR Engagement: The Role of Values and Stewardship" with 214 citations highlighted that how family values in family firms significantly shapes its engagement with society through corporate social responsibility. Chirico et al. (2020) with 141 citations emphasised the role of socioemotional wealth and family values in coming to strategic and crucial business decision. Other notable work in this theme was from Basco (2017) (108 citations), Broccardo & Zicari (2020) (117 citations) and Elmo et al. (2020) (107 citations) which linked sustainability with family values and socioemotional wealth for family firms.

Cluster 2 has papers clubbed into the theme of Succession Planning. This cluster has taken into account the aspects of leadership and its implication on ownership transfer within family owned MSMEs across generations. It has considered and included all strategic considerations, challenges and other relevant factors which are responsible for smooth transition of ownership from one generation to another. Key contributors to this theme are the one from Zellweger et al. (2012) with 653 citations. It has taken socioemotional wealth perspective into the process of succession planning. It argued that valuation of a family firm moves beyond the financial aspect and also encompasses the desire of previous generation to pass on the control to next generation making it almost necessary for smooth transition across the generation. Another contribution in this cluster of succession planning comes from De Massis et al. (2018) through their work "Family firms in the global economy: Toward a deeper understanding of internationalization determinants" with 326 citations. This paper has taken need for internationalisation for family-owned firms. It has highlighted the factors which are responsible for successful succession planning. One of the important factor it has discussed is the degree of family involvement and its implications cross generational aspirations and successful succession planning. Rondi et al. (2019) in their work "Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system" with 169 citations has explored the importance and presence of innovation within the family-owned business and how does it effect the cross generational succession.

Cluster 3 has theme of Family Culture. This cluster investigates the implication of various elements of family values like shared values, shared beliefs, shared norms which are very unique to every family and hence forms the important and inseparable part of family values. This cluster further explores the impact of other cultural aspect into factors like innovation, stakeholder relationship and

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also gender issues. Under this cluster key influential article includes the one from Marques et al. (2014) with their 214 citations. As discussed before, this paper has emphasised the role of family values and culture for the sustainability of family firm. Another work from Erdogan et al. (2020) which has 252 citations has examined how family culture effects the crucial relation between preserving tradition and innovation, a common issue in family-owned firms that impacts their long-term sustainability. The work from Campopiano et al. (2017) with 159 citations and from Chadwick & Dawson (2018) with 113 citations, highlighted the gender issue within family culture and hence family-owned business and its implications on firm's leadership and its performance, which are particularly relevant for Indian family businesses.

Cluster 4 has entrepreneurial orientation as a theme for this cluster. This cluster has taken into consideration the impact of important factors like innovation, proactiveness and risk-taking behaviour etc as an important element in the sustainability of family-owned firm. Some of the influential work in this cluster are from Erdogan et al. (2020) with 252 citations. This paper also has emphasised the importance of innovation and management style in sustainability of the family-owned firm. Another important work from Miller et al. (2010) with 320 citations has emphasised how family ownership influences risk-taking behaviour, specifically in important strategic decisions thereby highlighting an important element for entrepreneurial orientation in family firms. In their work Rondi et al. (2019) "Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system" with 169 citations emphasised the innovation as an important element for entrepreneurship orientation for the sustainability of family-owned firms.

Thus, from the above thematic clustering and their analysis it is established that there are four themes which defines / effects the sustainability of family-owned small enterprises. To reaffirm and to reconfirm it further, we undertook systematic literature review (SLR) so that the themes which are identified by VOS viewer can be physically verified and confirmed. For that we selected the topmost paper from the shortlisted paper in the process above. The topmost paper was selected on the basis of their number of citations. In the simpler words, the top 100 most cited papers were selected from the corpus of 717 papers as identified in the process as dealt above. Those top 100 most cited papers were read to reconfirm the themes or variables as identified by VOS viewer. The details of which is given below in table 3 below.

Table 3. *Top 100 papers for variable confirmation / identification*

S.N o.	Authors	Title	Year	Journal Name	Cited by	Variable identified
1	Zellweger T.M.; et al	Family control and family firm valuation by family CEOs: The importance of intentions for transgenerational control	2012	Organization Science	653	Succession planning
2	De Massis et al.	The case study method in family business research: Guidelines for qualitative scholarship	2014	Journal of Family Business Strategy	438	Family Culture
3	De Massis et al	Family firms in the global economy: Toward a deeper understanding of internationalization determinants, processes, and outcomes	2018	Global Strategy Journal	326	Entrepreneurial Orientation
4	Miller D.; et al	Family ownership and acquisition behavior in publicly-traded companies	2010	Strategic Management Journal	320	Family Culture
5	Erdogan I.; et al	Managing the Tradition and Innovation Paradox in Family Firms: A Family Imprinting Perspective	2020	Entrepreneurship: Theory and Practice	252	Family Culture
6	Marques P.; et al	The Heterogeneity of Family Firms in CSR Engagement: The Role of Values	2014	Family Business Review	214	Family Culture
7	Rovelli P.; et al	Thirty years of research in family business journals: Status quo and future directions	2022	Journal of Family	197	Family Goals

				Business Strategy		
8	Rondi E.; et al	Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system	2019	Journal of Family Business Strategy	169	Family Goals
9	Chang S.-J.; Shim J.	When does transitioning from family to professional management improve firm performance?	2015	Strategic Management Journal	160	Succession planning
10	Campopiano G.; et al	Women's involvement in family firms: Progress and challenges for future research	2017	Journal of Family Business Strategy	159	Family Goals, Succession Planning

Table 3 above provides an overview about the process we conducted to identify and reaffirm the variables as identified by VOS viewer. Though this table contains only 10 of such papers as an overview, the full table can be made available for the reference.

Once we gone through the papers, it was found that the variables which was identified by VOS viewer is same as that of those variables which we have found after reading the papers. Hence, it is confirmed that the variables / contracts which is responsible for sustainability of family owned MSMEs are as follows:

1. Family goals
2. Succession planning
3. Family culture
4. Entrepreneurial orientation

As asserted by Churchill (1979) in the first step of the process / steps for the development of multi-item scale, the domain has to be clearly defined and specified. Moving with that requirement, with the help of literature reviews we performed as shown above, we defined the domains identified as given below.

2.1.1 Definitions

2.1.1.1 Sustainability and Family Goals:

Sustainability in family-owned MSMEs is closely knitted with family financial goals and family social goals. As defined by Basco, 2017, family goals in the family owned MSMEs are economic and non economic in nature, which actually defines the financial goals and social goals for family owned MSMEs. Family owned MSMEs generally gives due preference to non financial goals like reputation of the firm, legacy it carries and standing in the society other than financial objectives. These objectives at the end, “forces” the firms to adopt the sustainable practices which in turn is beneficial to both the firm and the society as a whole in terms of its transgenerational continuity. The strong family identity develops a sense of belongingness towards the social capital which in turn enhances the firm’s ability to achieve economic, social and environmental objective which is crucial for sustainability of family firm. In simpler words, the purpose which small family firms serves with respect to job opportunities, for both owners and for society, and the personal growth which it brings for family and owner, makes it important for its survival and sustainability (Clauss et al., 2022, Patuelli et al., 2022, Herrera & De Las Heras-Rosas, 2020, Curado & Mota, 2021).

“Family Goals” with its sub variables financial goals and social goals with issues like social capital, job provisions, financial security and personal growth provides a logical support to the dependent variable sustainability of family owned MSMEs. The family owned business which has the sound financial security, since it provides a strong financial support to the family members involved in that family owned firm and hence the confidence, the firms hence give further the confidence to the involved family members in the business. Because the firms give the members a special status to the involving members in the society and also gives them the opportunity to give back to the society. This giving back to the society also comes in the form of job provision for the members of the society along

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with the members of the family which also means that the family-owned firms have well-being of the members in the highest priority. With all these issues in the place, family goals provide a chance to the members to achieve their personal growth and ambitions. Once all these things in the place, family goals automatically address the sustainability of these family-owned firms. These are the factors which contributes to the long-term sustenance and growth of the firm. Thus, based upon this, the hypothesis for this variable will be:

2.1.1.2 Sustainability and succession planning:

Sustainability and succession planning are greatly related to each other. This relationship comes in the form where the sustainability of small family firms depends upon the fact that how well the succession planning is framed which can take the family firm to its next coming generations. An effective succession planning here includes the business philosophy, well thought process and effective leadership development so as to ensure that the transgenerational transfer can happen smoothly. A well-developed succession plan ensures that the business passes from one generation to another without any disruption by protecting the firm's organisational culture and values. This is done by identifying and developing the successor through training, mentoring and may be through job rotation. Thus, succession planning supported by clear values, processes and philosophy, serves as an important tool for ensuring the sustainability of small family firms (Somboonvechakarn et al., 2022, Chirapanda, 2019, Herrera & De Las Heras-Rosas, 2020, LeCounte, 2020)

2.1.1.3 Sustainability and Family culture:

The sustainability of small family firms is deeply tied in family culture which includes the core values such as commitment, reputation of the family firm in the market. It also prioritises the long-term success and transgenerational continuity of business. In the small family firms, decision making offers a unique structure where head of the family are generally responsible for the decision making and other members of the family involved in the business are expected to support the decision. This cohesion for senior member taking the decision ensures the sustainability of the family firms as these decisions are backed by the data, facts and figures. This active involvement of family members in management, which is supplemented with gender diversity especially in leadership positions by inclusion of women enhances the creativity and innovation in decision making process and the way the business is carried out (Curado & Mota, 2021, Patuelli et al., 2022, Herrera & De Las Heras-Rosas, 2020, Gavana et al., 2016, Cruz et al., 2018).

2.1.1.4 Sustainability and Entrepreneurial Orientation:

Entrepreneurship Orientation (EO) is another important determinant, deciding the sustainability of family owned MSMEs, by providing family firms a behavioural and strategic framework. Amongst its important constituents, proactiveness assumes one of the important positions as it entails the family firms to identify and anticipate the market trends and future opportunities in the market. This in turn helps the family firms to introduce new products in the market much before the competition. Innovativeness, being another important component of EO, propels the family firms with their new products, new technology adaptations and creativity to remain ahead in the market. This in turn helps the family firm in their sustainability. The risk-taking dimension provides another deeper understanding of relationship between EO and sustainability. Under this dimension, firms adopt a balanced approach between the high return combined with high risk associated with the project (Kallmuenzer & Peters, 2018, Hernández-Linares, Kellermanns, López-Fernández, & Sarkar, 2019, (Naldi, Nordqvist, Sjöberg, & Wiklund, 2007, Hernández-Perlines & Cisneros, 2018, Mullens, 2018).

2.2 Theoretical Model

With the above discussions and understanding, a theoretical model was developed which clearly details about the relationship between the sustainability of family owned MSMEs (dependent

variable) and the independent variables defined and identified. The theoretical research model as described in figure 3 below, contains the “Sustainability of family owned business” as dependent variable and “Family goals”, “Succession planning”, “Family culture” and “Entrepreneurial orientation” along with their sub variables which is already defined in previous paragraphs.

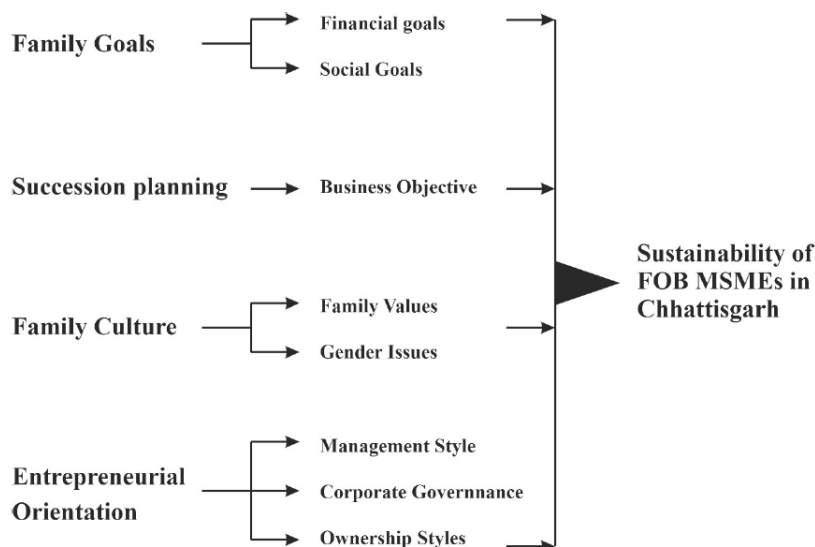


Figure 3. Theoretical Research Model

Once the theoretical research model is developed, next step comes is the development of hypotheses.

2.3 Hypotheses

According to Black (2010), research hypotheses are those statements which we believe will be the outcome of a study and in order to statistically test the research hypotheses, a more formal statement of hypothesis is developed which is called as statistical hypotheses. It consists of two parts, Null hypotheses and Alternate hypotheses, where null hypotheses states that there are “null” conditions exists. In other words, there is nothing new is existing and everything is as it is. On the other hand, alternate hypothesis states that there is something new is going to happen which will be different from the previous state.

Based on the above theories, the research, null and alternate hypotheses for the variables are given in table 4 and table 5.

Table 4. Research hypothesis

Variable (X_k)	Research Hypothesis ($H_{research}$)
Family Goals (X_1)	Family Goals are positively related to the Sustainability of Family Owned MSMEs.
Succession Planning (X_2)	Succession Planning is positively related to the Sustainability of Family Owned MSMEs.
Family Culture (X_3)	Family Culture is positively related to the Sustainability of Family Owned MSMEs.
Entrepreneurial Orientation (X_4)	Entrepreneurial Orientation is positively related to the Sustainability of Family Owned MSMEs.

Table 5. Statistical hypothesis

Variable / Hypothesis Type	Statement
Family Goals (β_1)	
Alternative (H_{a1})	$H_{a1}: \beta_1 > 0$, There is positive relationship between family goals and sustainability of family owned MSMEs
Null (H_{01})	$H_{01}: \beta_1 = 0$, There is no relationship between family goals and sustainability of family owned MSMEs
Succession Planning (β_2)	

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Alternative (H _{a2})	H _{a2} : $\beta_2 > 0$, There is positive relationship between succession planning and sustainability of family owned MSMEs
Null (H ₀₂)	H ₀₂ : $\beta_2 = 0$, There is no relationship between succession planning and sustainability of family owned MSMEs
Family Culture (β_3)	
Alternative (H _{a3})	H _{a3} : $\beta_3 > 0$, There is positive relationship between Family Culture and sustainability of family owned MSMEs
Null (H ₀₃)	H ₀₃ : $\beta_3 = 0$, There is no relationship between Family Culture and sustainability of family owned MSMEs
Entrepreneurial Orientation (β_4)	
Alternative (H _{a4})	H _{a4} : $\beta_4 > 0$, There is positive relationship between Entrepreneurial Orientation and sustainability of family owned MSMEs
Null (H ₀₄)	H ₀₄ : $\beta_4 = 0$, There is no relationship between Entrepreneurial Orientation and sustainability of family owned MSMEs

3. Generation of items

Based on the process suggested by Churchill (1979), in the figure 2 above, the next step in the process of scale development involves, the development of items for each and every construct as identified in the above / previous paragraphs. The process suggested by Churchill calls for detailed definition of each and every variables / sub variable so that a clear understanding of the terms can be developed and which can be utilised for the development of items for the scale. Thus, utilising the literature review and the informal discussions with the entrepreneurs involved in family-owned business, a set of items was developed for each and every construct identified above, the details of which is given below in table 6.

Table 6. Variables and the number of items

S.No.	Variables	Keywords defining the variables and sub variables	No. of Items	Total No. of Items
1	Family Goals	<i>Financial Security</i>	3	12
		<i>Social Capital</i>	3	
		<i>Job Provision</i>	3	
		<i>Personal / family growth</i>	3	
2	Succession Planning	<i>Philosophy & Process</i>	3	6
		<i>Advance Successor Planning</i>	3	
3	Family Culture	<i>Decision Making Structure</i>	4	8
		<i>Values and Harmony</i>	4	
4	Entrepreneurial Orientation	<i>Innovativeness</i>	3	8
		<i>Risk Taking</i>	3	
		<i>Proactiveness</i>	2	

The items were developed by taking into consideration the definition of each and every variable as provided in the literature review. The number of items for each and every construct was based on the key terms defining their respective variables. The statements for each variable are given below in the tables 7, 8, 9 and 10.

Table 7. Statement of items for variable “Family Goals”

C: Family Goals								
C1. Financial Security								
No.	Statement	1	2	3	4	5	6	7
C1.1	This business provides financial security for our family.							
C1.2	The business is a primary source of wealth for our family.							
C1.3	This business provides greater financial freedom for our family than employed work would.							

C2. Social Capital								
No.	Statement	1	2	3	4	5	6	7
C2.1	Owning this business gives our family a special status in the community.							
C2.2	The business allows us to give back to society.							
C2.3	Our family takes pride in owning and operating this business.							
C3. Job Provision								
No.	Statement	1	2	3	4	5	6	7
C3.1	Creating jobs for the community is an important goal for us.							
C3.2	The business provides job security for our family members.							
C3.3	The well-being of our employees is a high priority for our family.							
C4. Personal Growth								
No.	Statement	1	2	3	4	5	6	7
C4.1	The business helps me achieve my personal dreams and ambitions.							
C4.2	The business helps our family members achieve their dreams and ambitions.							
C4.3	Being in this business has helped us grow significantly as individuals.							

Table 8. Statement of items for variable “Succession Planning”

D: Succession Planning								
D1. Philosophy & Process								
No.	Statement	1	2	3	4	5	6	7
D1.1	In our family, there is an expectation that the next head of the family will lead the business.							
D1.2	We believe leadership should be offered to the next generation based on their merit and capabilities.							
D1.3	We seek external advice (from consultants/trusted advisors) when planning for succession.							
D2. Advance Successor Planning								
No.	Statement	1	2	3	4	5	6	7
D2.1	We have a formal, documented plan with a timeline for leadership succession.							
D2.2	Potential successors from the next generation are being actively groomed and mentored.							
D2.3	We are confident we have a suitable successor identified within the family.							

Table 9. Statement of items for variable “Family Culture”

E: Family Culture								
E1. Decision-Making Structure								
No.	Statement	1	2	3	4	5	6	7
E1.1	The head of the family has the final say in most major business decisions.							
E1.2	Once a decision is made by leadership, family members are expected to support it.							
E1.3	Important business decisions are primarily based on the leader's experience and intuition.							
E1.4	Important business decisions are primarily based on data and market analysis.							
E2. Values & Harmony								
No.	Statement	1	2	3	4	5	6	7
E2.1	Our family's values are deeply integrated into our business practices.							
E2.2	Maintaining family harmony is as important as achieving business goals.							
E2.3	We strive to maintain the traditions established by the founder(s).							
E2.4	Open and honest communication about the business is encouraged among family members.							

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Table 10. *Statement of items for variable “Entrepreneurial Orientation”*

F: Entrepreneurial Orientation								
F1. Innovativeness								
No.	Statement	1	2	3	4	5	6	7
F1.1	We actively innovate to retain our market share.							
F1.2	We thoroughly research and plan before launching new innovations.							
F1.3	We often prefer to wait for competitors to innovate first before we respond.							
F2. Risk-Taking								
No.	Statement	1	2	3	4	5	6	7
F2.1	Our firm favors high-risk projects with the potential for high returns.							
F2.2	In the past, we have made bold decisions despite significant uncertainty.							
F2.3	We adopt a bold, aggressive posture to maximize growth opportunities.							
F3. Proactiveness								
No.	Statement	1	2	3	4	5	6	7
F3.1	We are often the first to introduce new products/services or enter new markets.							
F3.2	We consistently anticipate and act on future market trends ahead of our competitors.							

Thus, items were developed by taking the definitions given in literature review. For the purpose of having more clarity and better responses, 7-point Likert scale was used. 7-point Likert scale provides more accurate and reliable responses as compared to 5-point Likert scale. Participants found asking for more choices for expressing their choices if they were using 5-point Likert scale. Moreover 7-point Likert scale can be optimised for reliability and validity which is needed in confirmatory factor analysis since the increment in number of scale point can offer better psychometric performance (Kusmaryono & Wijayanti, 2022, Malik et al., 2021).

4. Collection of initial data (pilot study)

According to Churchill (1979), the pilot survey is done to purify and refine the measurement instrument. The purpose is to identify weak or problematic items and estimating their reliability. With the pilot survey, we can ensure that each and every item in the scale is contributing meaningfully to the construct under study and items together forming a coherent, valid and reliable scale before the main survey is undertaken.

For the purpose of checking the reliability, validity and purify the items, a total of 50 samples from family owned Indian MSMEs were collected. 50 sample size for the above said purpose is sufficient to conduct the reliability test (Churchill, 1979; Hair et al., 2019; Johanson & Brooks, 2010; Nunnally, 1978; Van Teijlingen & Hundley, 2001). Sampling units were those MSME units who are family owned small and micro enterprises.

Once the pilot survey data are collected, the data was cleaned and thereafter coding was done for the responses. There were few missing data and few data were wrongly filled. All those data were removed to make the data sheet appropriate for the analysis. The data once cleaned were uploaded in Jamovi software to perform the preliminary analysis. Jamovi is open-source tool for data analysis that offers user friendly and modern interface with broad statistical capabilities (Şahin & Aybek, 2019).

The result of the Cronbach’s Alpha analysis for all constructs is given below in the table 11:

Table 11. *Cronbach’s Alpha value for construct*

Construct	Alpha value
Family goals	0.771
Succession planning	0.627
Family Culture	0.64
Entrepreneurial Orientation	0.646

According to Churchill (1979), the value of Cronbach’s alpha should ideally start from 0.70. We find in the above table that the value of all construct’s alpha is ranging around 0.60. There is only one construct where the value is at par with the Churchill’s suggestion, is the value of Family Goals, which is 0.771. Values ranging from 0.5 to 0.6 describes the initial exploratory nature of scale. With the time, there is scope for refinement in the scale. The higher values of construct can be found in the established, time-tested scales (Nunnally, 1978). Further, according to Churchill (1979), initial reliability measures can be taken in low value also, provided items demonstrate the theoretical coherence and contribution to the construct is strong. Hair et al. (2019) suggested that with the recent development in the field of social science, the multidimensional construct can produce moderate values that can range between 0.6 to 0.7 and which can be taken as accepted value. Therefore, reliability coefficient values found in this pilot study falls within the acceptable range and provides the sufficient basis to move ahead with the further steps.

Once the Cronbach’s Alpha is done for the scale, Churchill suggested that there should be item-rest correlation where every item is checked with that of construct’s alpha score. For that, Jamovi was used to perform the test and the results are given below in the table

Table 12. Cronbach’s Alpha value for Item reliability

Family Goals, Item Reliability Statistics		Succession Planning, Item Reliability Statistics		Family Culture, Item Reliability Statistics		Entrepreneurial Orientation, Item Reliability Statistics	
Items	If item dropped	Items	If item dropped	Items	If item dropped	Items	If item dropped
C1.1	0.765	D1.1	0.612	E1.1	0.631	F1.1	0.61
C1.2	0.76	D1.2	0.643	E1.2	0.548	F1.2	0.616
C1.3	0.754	D1.3	0.488	E1.3	0.598	F1.3	0.623
C2.1	0.765	D2.1	0.541	E1.4	0.631	F2.1	0.652
C2.2	0.737	D2.2	0.653	E2.1	0.578	F2.2	0.61
C2.3	0.742	D2.3	0.534	E2.2	0.613	F2.3	0.603
C3.1	0.771			E2.3	0.658	F3.1	0.633
C3.2	0.753			E2.4	0.597	F3.2	0.558
C3.3	0.751						
C4.1	0.754						
C4.2	0.764						
C4.3	0.748						

The above table 12, provides the reliability of each item with respect to their construct. It provides the reliability value, if that item is removed / dropped. If the alpha value is increasing by removing them, then it means that, particular item is reducing the scale internal consistency and it is better to remove it from the scale. In the above table, each item is near to its respective construct’s value and by eliminating them, it is making any significant difference to the total value. Hence, it is clearly suggesting that items are collectively contributing to the reliability of the construct. Therefore, as per Churchill’s suggestion based on alpha value if items removed, the scale is demonstrating the internal consistency and does not require any further purification to the scale.

To further establish the inference above we performed the confirmatory factor analysis. With CFA we can directly access whether each item meaningfully represent their respective construct. CFA does this by examining the standardise factor loading, standard errors, z values and significance values thus offering a more rigorous and robust understanding of construct which Churchill has emphasised upon. The findings of CFA is given in summarised form in the table 13 below.

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Table 13. Summary of CFA Loadings

Construct	Item	Standardized Loading	SE	Z-value	p-value	Churchill Criterion	Decision
Family Goals	C1.1	0.555	0.03	18.5	< .001	Loading > 0.50 → acceptable	Retain
	C1.2	0.596	0.0306	19.4	< .001	Acceptable	Retain
	C1.3	0.753	0.0285	26.4	< .001	Strong item	Retain
	C2.1	0.738	0.0311	23.7	< .001	Strong	Retain
	C2.2	0.648	0.0297	21.8	< .001	Acceptable	Retain
	C2.3	0.798	0.0299	26.7	< .001	Strong	Retain
	C3.1	0.606	0.0289	21	< .001	Acceptable	Retain
	C3.2	0.554	0.0309	18	< .001	Acceptable	Retain
	C3.3	0.614	0.0306	20.1	< .001	Acceptable	Retain
	C4.1	0.523	0.0304	17.2	< .001	Minimum acceptable	Retain
	C4.2	0.575	0.03	19.2	< .001	Acceptable	Retain
	C4.3	0.701	0.0295	23.8	< .001	Strong	Retain
Succession Planning	D1.1	0.541	0.0362	14.9	< .001	Acceptable	Retain
	D1.2	0.644	0.0371	17.3	< .001	Acceptable	Retain
	D1.3	0.457	0.0365	12.5	< .001	Slightly low (below ideal)	<i>Retain with caution</i>
	D2.1	0.677	0.0349	19.4	< .001	Acceptable	Retain
	D2.2	0.507	0.0341	14.8	< .001	Minimum acceptable	Retain
	D2.3	0.701	0.036	19.5	< .001	Strong	Retain
Family Culture	E1.1	0.692	0.031	22.3	< .001	Good	Retain
	E1.2	0.762	0.0288	26.5	< .001	Strong	Retain
	E1.3	0.778	0.03	25.9	< .001	Strong	Retain
	E1.4	0.515	0.0306	16.8	< .001	Minimum acceptable	Retain
	E2.1	0.673	0.0312	21.6	< .001	Good	Retain
	E2.2	0.8	0.0293	27.3	< .001	Very strong	Retain
	E2.3	0.668	0.0312	21.4	< .001	Good	Retain
	E2.4	0.783	0.0307	25.5	< .001	Strong	Retain
Entrepreneurial Orientation	F1.1	0.808	0.03	26.9	< .001	Very strong	Retain
	F1.2	0.564	0.0319	17.7	< .001	Acceptable	Retain
	F1.3	0.65	0.0302	21.5	< .001	Good	Retain
	F2.1	0.533	0.0305	17.5	< .001	Acceptable	Retain
	F2.2	0.835	0.03	27.8	< .001	Very strong	Retain
	F2.3	0.654	0.0299	21.9	< .001	Good	Retain
	F3.1	0.734	0.0309	23.8	< .001	Strong	Retain
	F3.2	0.531	0.0326	16.3	< .001	Acceptable	Retain

Moving as per the suggestion of Churchill that we have to keep only those items which represents its construct, CFA loading in the above table shows that all the items meet or exceed the required minimum value. Across the items/ constructs, the factor loadings are consistently above or atleast very much near to the threshold value of 0.5, which indicates that each item are significant enough to represent their construct. Though there is one item D1.3 that shows a lower value of 0.457, but it remains statistically significant (p-value) and hence does not indicate any weakness, that it should be removed from the scale. And also, there is no evidence of any cross loading which at the end directly aligns with the Churchill's requirement of internal coherence.

Table 14. Factor Co Variances

Factor Covariances		Estimate	SE	Z	p
Family Goals	Family Goals	1			
	Succession Planning	0.286	0.0301	9.49	<.001
	Family Culture	0.246	0.0269	9.13	<.001
Succession Planning	Succession Planning	1			
	Family Culture	0.271	0.0307	8.82	<.001
	Entrepreneurial Orientation	0.243	0.0314	7.74	<.001
Family Culture	Family Culture	1			
	Entrepreneurial Orientation	0.248	0.0277	8.96	<.001
Entrepreneurial Orientation	Entrepreneurial Orientation	1			

Table 14 above details the factor co variances, which talks about the degree to which the four constructs are related to each other after taking all measurement errors into consideration. All the values of covariances are positive, are statistically significant ($p < 0.001$) and are falling under moderate range of 0.24 to 0.29. This clearly means that while all the constructs are conceptually correlated to each other and don't overlap to the extent that they show a kind of repetition. Since the covariances values are not so high, that means that constructs retain the discriminant distinctiveness thereby ensuring that each of them represents a unique dimension of family business functioning. On the other hand, the moderate value of covariances also signifies that each of the construct is related to each in a significant way but at the same time do not overlap each other.

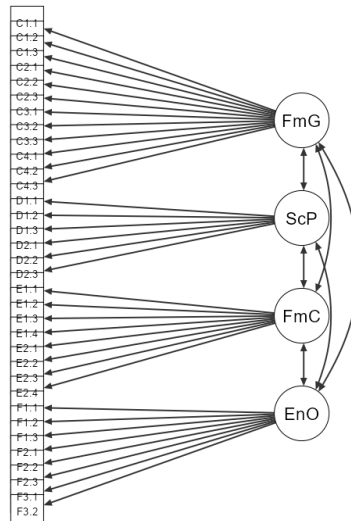
Table 15. Model Fit Measures

χ^2	df	p	CFI	TLI	SRMR	RMSEA	Lower	Upper
558	521	0.126	0.996	0.996	0.0186	0.00593	0	0.00964

Table 15 above provides the model fit indices. The table 15 with extremely high CFI and TLI values and extremely low values of SRMR and RMSEA along with non significant χ^2 values, provides a clear indication that the model is perfect fit suggesting that each item collectively corresponds to a well specified measures.

Hence with all these indices and measurements, a clear path diagram was formed with the help of Jamovi. This path diagram (as given in figure 4) clearly supports the theoretical model as given above in the figure 3.

Figure 4. CFA Path diagram



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The CFA diagram above in figure 4, provides an understanding for correlated factor model in which four variables Family Goals (FmG), Succession Planning (ScP), Family Culture (FmC), and Entrepreneurial Orientation (EnO) represented by multiple items or multiple reflective indicators. In the figure 4, every item loads into their respective construct, confirming to Churchill's requirement that each and every item should correspond to its respective construct clearly. The unidirectional flow of arrow from construct to its respective items, indicates that the items are clearly reflective of construct and the absence of cross loading amongst the items indicates that items have maintained its individuality for its construct. The two-sided arrow amongst the constructs indicates that though the constructs are different from each other but collectively they are related to each other hinting towards one answer. This was also supported by the CFA figures as provided in tables 13, 14 and 15. The structure of figure provides a clear indication that the model formed is clearly and well specified. Each of the constructs in the figure 4 above are very well identifiable. The items collectively form the internally coherent measurement clusters and thus the relationship amongst the variables/construct are in line with theoretical model developed during the initial phase of scale development process with the help of literature review.

5. Conclusion

Our successfully concludes the initial phases of scale development strictly according to the steps and process suggested by Churchill (1979). Our primary objective was to develop a multi-item scale needed to measure the sustainability of family owned Indian MSMEs by involving four variables: Family Goals, Succession Planning, Family Culture and Entrepreneurial Orientation, identified through extensive literature review.

With the help of literature review, constructs were identified, respective items were generated which was followed by pilot survey involving collection of data for further steps. As per Churchill's requirement of internal homogeneity, we confirmed the internal consistency of items and scale. The analysis of Cronbach Alpha and the result from Confirmatory Factor Analysis (CFA) including strong factor loadings and acceptable model fit demonstrated that the items collectively form the internal coherence for measuring the clusters. This process has avoided the risk of GIGO (garbage in, garbage out) by ensuring that the measuring tool is reliable and also theoretically sound.

Thus, this paper delivers a fully developed multi-item scale ready to be used in large scale data collection concerning the family owned Indian MSMEs.

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