Full Length Article Open Access

Impact of Institutional Pressure on Competitive Advantage: The Mediating Role of Sustainable Supply Chain Management Practices

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ABSTRACT

Purpose: The main purpose of this research is to investigate the impact of institutional pressure on competitive advantage with the mediating role of sustainable supply chain management practices.
Design/Methodology/approach: The current study is quantitative. The survey approach was chosen as the research strategy. The Statistical Package for Social Sciences (SPSS) version 22. The software was applied for Exploratory Factor Analysis (EFA). Analysis of Moment Structures (AMOS) software version 22 was applied for Confirmatory Factor Analysis (CFA). Data was collected from 373 managers in Pakistani manufacturing industries using a structured questionnaire. Targeted individuals working in industries include those dealing with sustainability issues, such as the leather, steel, textile, and rice industries. Completed questionnaires collect primary data. The current study is based on the Resource Based View (RBV) theory.
Findings: This research found that institutional pressure has a significant direct impact on competitive advantage. Further, sustainable supply chain management practices have a substantial direct impact on competitive advantage. Besides, sustainable supply chain management practices mediate the relationship between institutional pressure and competitive advantage. In general, the findings of this study provide substantial support for all of the hypotheses regarding direct and indirect effects.
Practical Implication: This research will help managers and practitioners achieve long-term corporate sustainability, vital firm performance, sustainable competitive advantage, and value creation.
Original/Value: This research attempts to make a significant contribution to the current body of knowledge. The study is novel in terms of understanding the pressures for implementing sustainable supply chain management practices in Pakistan's manufacturing industries. Stakeholders can successfully implement sustainable supply chain management practices in day-to-day operations by understanding the contextual relationships between pressures and sustainable supply chain management practices. This study also adds empirical support to the RBV theory.
Keywords: Institutional pressure, sustainable supply chain management practices, competitive advantage, manufacturing industry.

1. INTRODUCTION

In the last two decades, the phenomenon of sustainability/sustainable development has gained enormous importance in industry and academics all around the world

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Article info
Received May 12, 2022
Accepted August 22, 2022
Published Sep 30, 2022

(Blinova, Ponomarenko, & Knysh, 2022; Jouda & Abu Dan, 2022; Mastos & Gotzamani, 2022). The World Commission of Environment and Development (WCED, 1987) gave this phenomenon its initial name, the "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" This drew the attention of a large number of researchers and sparked their interest in determining its importance Then, John Elkington introduced economy, ecology, and society as the three cornerstones of sustainability. These three pillars were called "Triple Bottom Line (TBL)" in his book "Cannibals with Forks: the TBL of 21st Century Business, (Elkington & Rowlands, 1999)" he discusses the triple bottom line of modern businesses. After that, (Dyllick & Hockerts, 2002) explored and termed these three pillars as business, natural, and societal. Later, (M. Asif, Searcy, Zutshi, & Ahmad, 2011) referred to these three pillars as profit, planet, and people.

The economic bottom line is frequently evaluated based on factors such as its operational efficiency, market share, sales, as well as upgrading. The environmental bottom line includes a move to resource efficiency, green purchasing, eco-friendly product development, eco-efficiency, and management of waste in reverse logistics and operations (Bonfanti, Mion, Brunetti, & Vargas-Sánchez, 2022). The terms "labor conditions," "well-being," and "quality of life" are most closely related to "social sustainability," along with concepts such as "equality," "diversity," and "connectedness" both inside and outside of the community (Orji & Ojadi, 2021).

Sustainability is difficult to maintain without implementing sustainable practices (Hong, Guo, Chen, & Li, 2022). The implementation of sustainability practices enhances an organization's and its supply chain's environmental and social performance. Additionally, it enables firms to develop a new set of competencies that can aid them in achieving competitive advantage through sustainability activities both inside and outside of the boundaries of the organization. It is common for a diverse set of internal and external factors to affect whether or not to take sustainability-related actions or adopt sustainable practices (Ahmadi-Gh & Bello-Pintado, 2022). As a result, the answers to the requirements of numerous stakeholders might affect the relationship between the adoption of sustainability initiatives and the effectiveness of those initiatives on the

supply chain's performance with regard to sustainability (Haleem, Farooq, Cheng, & Waehrens, 2022).

A sustainable supply chain goes beyond traditional supply chain management by incorporating environmental and social considerations (Shekarian, Ijadi, Zare, & Majava, 2022) as well as economic issues (Khan, Yu, Golpira, Sharif, & Mardani, 2021). (Seuring & Müller, 2008) were the pioneers who defined "the management of materials, information, and capital flows as well as corporations among companies along the supply chain while taking goals from all three dimensions of sustainable developments, i.e., economic, environmental and social, into account which derived from customers and stakeholder requirements." To achieve long-term economic benefits, they stressed how important it is to incorporate ideas of sustainability into company procedures throughout the supply chain. As a result, managerial actions that are related to sustainability are tasked with achieving both financial and non-financial (environmental and social) performance goals in a sustainable supply chain (Sánchez-Flores, Cruz-Sotelo, Ojeda-Benitez, & Ramírez-Barreto, 2020).

In reaction to increasingly strict environmental legislation and the potential for earning a competitive advantage. Manufacturers have pressure to a developed number of environmental management strategies. Manufacturers can have a better strategic and competitive position if they cost-effectively implement environmental management with their supply chain partners, suppliers, and customers (Qureshi, 2022). Supply chain efficiency can be improved by collaborative organizational activities to lower the environmental constraints of product and process development (Kirchoff & Falasca, 2022). To reduce their environmental impact without sacrificing productivity. Firms are increasingly adopting a supply chain-wide management strategy in the form of sustainable supply chain management. Various institutional and stakeholder pressures function as powerful motivators for an organization to conduct sustainable supply chain management practices-related activities (Dai, Xie, & Chu, 2021). Hence, institutional pressure is a primary factor that plays a role in motivating the deployment of external sustainable supply chain management practices.

For organizational sustainability, institutional pressure plays a key role in

determining whether a company succeeds or fails. In addition, sustainable supply chain management practices give organizations a chance to differentiate themselves from their competitors. This article covers three aspects of organizational resources from institutional pressure, which are market pressure, regulatory pressure, and competitive pressure. And capabilities include sustainable supply chain management practices that lead to gaining a competitive position in the market. However, this research study focuses on answering the following key research questions:

1. Does institutional pressure (market pressure, regulatory pressure, competitive pressure) have an impact on competitive advantage?
2. Do sustainable supply chain management practices have an impact on competitive advantage?
3. Do sustainable supply chain management practices mediate the relationship between institutional pressure (market pressure, regulatory pressure, competitive pressure) and competitive advantage?

To respond to these questions, the current research undertakes an empirical survey. The study's target population is Pakistani individuals working in manufacturing enterprises in the districts of Lahore, Sialkot, and Faisalabad. The questionnaire is adopted and adapted for the current research. As it is considered to be the most suited research instrument for the assessment of hypotheses and research questions. In terms of methodology, the researchers used structural equation modeling to simulate significant relationships.

The remaining part of the paper is separated into the following sections. The second section describes previous research studies and develops hypotheses for the ongoing study. In section 3, the study's research methodology is described. The empirical results are provided in Section 4. Section 5 highlights the discussion addressing the study's findings, their implications, and future research opportunities.

2. LITERATURE REVIEW

2.1. The relationship between institutional pressure and competitive advantage.

(Alyahya, Aliedan, Agag, & Abdelmoety, 2022) investigated the role that external pressures play on sustainable development practices as a driver of green innovation in Saudi Arabia. The findings showed that institutional pressures, such as governance pressure, customer pressure, and competitive pressure, are important forces behind green innovation and sustainable development practices. They also suggested that green innovation is significantly influenced by sustainable development practices (i.e., environmental sustainability, social sustainability, and economic environmental sustainability). Lastly, research leads us to suggest that external pressures and sustainable development principles have an impact on green innovation which ultimately gain a competitive position in the market.

(El-Garaihy, Badawi, Seddik, & Torky, 2022) explored how to play a part in driving business adoption of green supply chain practices in the Saudi Arabian manufacturing industry. According to the results of the study, green supply chain practices are significantly affected when there are institutional pressures. In addition to this, one more significant effect of environmental orientation on green supply chain practices was observed. Green supply chain practices implemented by manufacturing companies have a materially positive impact on both the economic and ecological performances of their respective industries.

A study by (Dai et al., 2021) revealed that Chinese firms have been under growing institutional pressure to employ sustainable supply chain management strategies due to environmental concerns. Additionally, companies that are subjected to market (normative) and regulatory (coercive) forces are more likely to enhance their environmental performance. These pressures result in the adoption of eco-design and green purchasing practices. Furthermore, manufacturers who are subjected to increased regulatory pressures are more likely to employ green purchasing and investment recovery strategies. In addition, the presence of competitive (mimetic) pressure considerably increases economic gains. The adoption of a variety of green supply chain management strategies with no adverse effect on environmental performance can gain a competitive position in the market.

(Jum’a, Ikram, Alkalha, & Alaraj, 2022) investigated the effects of institutional

pressure, particularly market, regulatory, and competitive pressures, on managers' propensity to adopt green supply chain drivers and green supply chain practices in manufacturing firms in Jordan. According to the findings, a positive effect has been achieved on most of the relationships between green supply chain drivers and green supply chain practices. As a consequence, the regulatory measure was one of the central pressures to adopt a green supply chain to become more competitive in the market.

(Saeed & Kersten, 2019) analyzed sustainable supply chain management drivers that influence or encourage organizations to undertake sustainability initiatives and implement sustainable solutions throughout their supply chains. According to the findings, regulatory and market pressures, measured by the frequency of citations, are the most influential drivers of sustainable supply chain management in the adoption of sustainability practices. Additionally, regulatory and market pressures have strong internal drivers to adopt sustainable supply chain management practices to gain a competitive position in the market.

As a result of the foregoing observations, it is hypothesized that:

H_1: *Institutional pressure positively impacts competitive advantage*.

2.2. The relationship between sustainable supply chain management practices on competitive advantage

Several research has been conducted to study the mechanism by which sustainable supply chain management practices can improve a company's competitive advantage. By surveying 120 Malaysian manufacturing firms. (Karia & Davadas Michael, 2022) indicated that sustainable supply chain management practices have a beneficial influence on long-term performance, particularly from an economic and social standpoint.

(Mukhsin & Suryanto, 2022) analyzed how competitive advantage affects the effect of sustainable supply chain management on company performance. The study's results showed that sustainable supply chain management affects competitive advantage. Sustainable supply chain management and competitive advantage affected company performance. The most important thing this study showed is that managers should make sure their companies are competitive when implementing a sustainable supply chain to improve company performance.

(X. Yang & Wang, 2022) examined the connection between enterprise economic performance, dynamic capabilities, and sustainable supply chain management practices. The results demonstrate that employing sustainable supply chain management techniques has a significant, favorable impact on both economic performance and dynamic capabilities.

(Laosirihongthong, Samaranayake, Nagalingam, & Adebanjo, 2020) explored the impact of triple-bottom-line metrics on sustainable supply chain management practices. According to the findings, the sustainable design emerged as the most crucial sustainable supply chain management practice for achieving the triple bottom line, while the economic dimension was the most important measure for implementing such practices. Further, demonstrates that sustainable supply chain management has good benefits for both environmental and operational performance. Sustainable supply chain management activities are favorably associated with financial success as assessed by return on assets and return on equity.

(Rajesh, 2020) found that using sustainable supply chain management practices in manufacturing businesses in emerging economies can lead to good results and make those businesses more competitive. (Saqib & Zhang, 2021) demonstrated that sustainable practices have a big effect on how well a company does in terms of sustainability.

As a result of the foregoing observations, it is hypothesized that:

H_2: *Sustainable supply chain management practices positively impact the competitive advantage of the organization.*

2.3. Sustainable supply chain management practices mediate the relationship between institutional pressure and competitive advantage.

(Andersson et al., 2022) examined how focal firms' business relationships with their stakeholders in supply chain networks affect their business sustainability. The findings reveal that when developing the business, it is essential to take into consideration a specific sustainable supply chain network. It also emphasizes the necessity of working with business sustainability and the triple bottom line while taking a larger portion of the supply chain network into account to gain a competitive position in the market.

(M. S. Asif, Lau, Nakandala, Fan, & Hurriyet, 2020) investigated the adoption of

green supply chain management practices with the collaboration of governments and domestic firms. Findings indicated that green supply chain management practices were adopted by businesses to reduce their environmental footprint due to pressure from government regulations, customer demands, and supplier performance.

(Micheli, Cagno, Mustillo, & Trianni, 2020) explored how drivers influence the implementation of green supply chain management practices in 169 Italian manufacturing firms in Europe. According to their findings, by adopting a set of green practices, businesses can gain a competitive advantage in the market.

(Q. Yang, Geng, & Feng, 2020) discovered how the environment influences the effectiveness of green supply chain integration in 206 Chinese manufacturing companies.

The results show that businesses will be more likely to use sustainable supply chain management if stricter methods are created. The findings show that green supplier integration has a positive impact on social performance. Green customer integration's positive impact on financial, environmental, and social performance.

To ensure a favorable impact on their stakeholders, society, and the environment, (Renukappa, Suresh, & Sarrakh, 2020) researched how to incorporate sustainability practices into their strategies. Special emphasis was placed on external drivers for implementing sustainability practices within Qatar oil and gas organizations. According to the findings, organizations were motivated to implement sustainability by a total of seven drivers. These drivers could be categorized into three primary groups: coercive pressures, normative pressures, and mimetic pressures.

(Bendoly et al., 2021) discovered that organizational variables outweigh external ones in terms of relevance. They affect SSCMP, which results in increased sustainability performance. In addition, top-level leadership's dedication and support play an important role in fostering a positive workplace climate. Furthermore, compliance with environmental standards (ISO14001) and safety standards (OHSAS18001) creates a situation for the firm to allow sustainable supply chain operations. Market and consumer sensitivity, on the other hand, were quite dynamic, and the company could not afford to ignore them for gaining a competitive position in the market.

As a result of the foregoing observations, it is hypothesized that:

H_3: *Sustainable supply chain management practices mediate the relationship between institutional pressure and competitive advantage.*

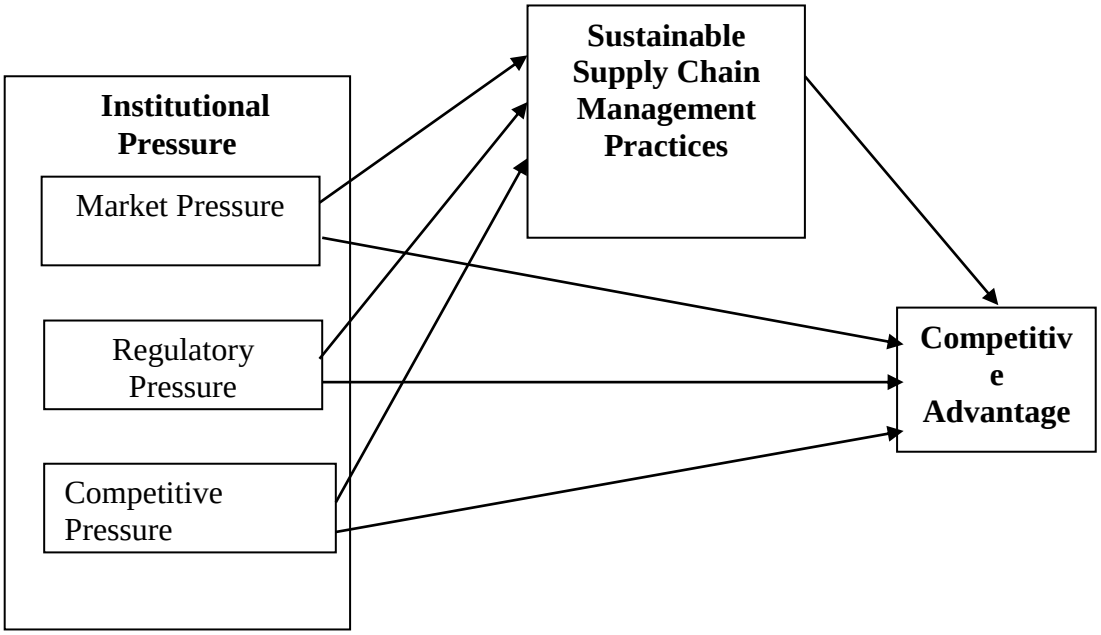

Figure 1. Research Model

3. RESEARCH METHODOLOGY

3.1. Variable Operationalization

The current research is quantitative. Since the objective of this research is to investigate how institutional pressure is extended to achieve competitive advantage via sustainable supply chain management practices. Conversely, why and when firms adopt institutional pressure to extend their sustainable supply chain management practices reach into a competitive position. This survey approach was chosen as the research strategy since this paves the way for the study's primary goals to be met and the research questions to be answered. The questionnaire is adopted for the current research. It is considered to be the most suited research instrument for the assessment of hypotheses and research questions. In cases where it was deemed necessary, the researchers adapted the scales to better fit the conditions in Pakistan.

To measure institutional pressure the study will adopt 11 items scale. (Wu, Ding, &

Chen, 2012) developed and validated the scale and adopted it for the current study. The scale was measured using a Likert scale with five points, with one representing that does not exist at all and five representing to a very great extent exists.

To measure sustainable supply chain management practices the study adopted 9 items scale. (Ni & Sun, 2019) developed and validated the scale adopted for the current study. The scale was measured using a Likert scale with five points, with one representing not implemented and five representing a high level of implementation.

To measure competitive advantage the study adopted 6 items scale. (Tracey, Vonderembse, & Lim, 1999) developed and validated the scale and adopted it for the current study. The scale was measured using a Likert scale with five points, with one representing strongly disagreeing and five representing strongly agreeing.

3.2. Population, Sampling, and Data Collection

The universe of units from which qualifying samples are drawn is referred to as the target population(McEwan, 2020). Thus, the study's target population is Pakistani individuals working in manufacturing enterprises in the districts of Lahore, Sialkot, and Faisalabad. In the current study, the researcher employed a nonprobability sampling technique specifically snowball sampling. The operations/logistics and supply chain managers are the key respondents working in manufacturing enterprises and are the unit of analysis in this study.

According to (Burmeister & Aitken, 2012) when determining the appropriate sample size for regression analysis. The 20:1 rule specifies that the ratio of the sample size to the number of parameters in a regression model should be at least 20 to 1. This can be used to determine the appropriate size of the sample for this kind of analysis. (Hair et al., 2021) also suggested that larger samples typically yield better results for structural equation modeling. However, the present study calls for 20 samples per observed variable to strengthen the findings. In the present study model, there are three theoretical constructs, each with an average of above five observed variables per construct. This implies (3 (number of constructs)*20 (number of observed variables)* 8.66 (number of required samples per observed variables) = 519. Keeping this in mind, the sample size criteria were determined at 600 samples so that the researcher may safely achieve the

minimum sample size requirement. According to (Hair Jr et al., 2021) recommendation, this sample size is adequate for the suggested statistical approach of structural equation modeling. A total of around 600 questionnaires were distributed, and approximately 373 of them were returned in a form that could be used, yielding a response rate of approximately 62.16 percent.

According to (Saunders, Lewis, & Thornhill, 2019) two types of questionnaires were used in business and management research. First, self-administered questionnaires such as internet-mediated questionnaires, postal questionnaires, and delivery and collection questionnaires. In the second type, a telephone questionnaire and a structured interview were used. For the current study, a self-administered questionnaire was used, with a focus on delivery and collection. Though, self-administered questionnaires were the ideal way to collect data since respondents could fill them out whenever they had free time without researcher influence. Each questionnaire came with a cover letter stating that the information would be kept confidential and used only for research.

3.3. Data Analysis Method

To answer the stated study questions and to discover correlations between the variables (institutional pressure, sustainable supply chain management practices, and competitive advantage) appropriate analytical techniques were employed. EFA which employs the maximum likelihood method with Varimax rotation is utilized to do an analysis of the factor structure and the connection between the items that are included in the scale. The findings are provided of the rotated factor matrix. CFA was used to analyze the psychometric qualities of the variables in this study. To evaluate the model's goodness of fit, a variety of indices were used. It includes the two absolute fit indices, "chi-square" and "Root Mean Squared Error of Approximation (RMSEA)". Additionally, two incremental fit indices, including the "Comparative Fit Index (CFI)" and "Goodness of Fit Index (GFI)". The descriptive statistics were carried out using the "SPSS" version 22. Software. To evaluate the mediating analysis through "AMOS" software version 22

4. RESULTS AND ANALYSIS

4.1. Correlation Analysis

The purpose of the correlation analysis was to determine the zero-order correlation between the study's variables. To determine the inter-correlation between all of the study's variables, Pearson Correlation analysis was used. The bivariate correlation coefficients for each of the study's main variables are shown in the following Table 1. Bivariate Correlation depicts the relationship between variables. (Cohen, 1992) defines a small effect size as "r" varying around 0.1 to 0.3, a medium effect size as "r" varying around 0.3 to 0.5, and a large effect size as "r" varying more than 0.5. The table-1 summarises the findings, which show that competitive advantage is positively associated with all other observed variables and there is a significant positive correlation. The value of correlation represents that IPMP, IPRP, and IPCP with CA have a significant relationship with (r = 0.483**, r = 0.439**, r = 0.498**). The correlation value of SSCMP with CA is significant and directly correlated (r = 0.457**).

Table 1. Correlations

		IPMP	IPRP	IPCP	SSCMP	
IPMP	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	373				
IPRP	Pearson Correlation	.369**	1			
	Sig. (2-tailed)	.000				
	N	373	373			
IPCP	Pearson Correlation	.254**	.520**	1		
	Sig. (2-tailed)	.000	.000			
	N	373	373	373		
SSCMP	Pearson Correlation	.495**	.501**	.381**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	373	373	373	373	
CA	Pearson Correlation	.483**	.439**	.498**	.457**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	373	373	373	373	373

**. Correlation is significant at the 0.01 level (2-tailed).

4.2. Descriptive Analysis

Demographics describe the sample's characteristics. All demographic information was analyzed using SPSS 22 to obtain Percentages. Descriptive statistics were used to find out how critical parameters relate to each other. A self-administrative survey was

conducted. There were around 440 answers obtained out of 600, encompassing questions on demographic characteristics, as well as questions on independent, mediating, and dependent variables. Of the returned questionnaires, approximately 62.16 percent were in operable condition, and 373 responses were obtained.

There was a wide range of demographics represented among the participants i.e. age, gender, and other demographics. The survey asked for both men and women and received 373 replies; of those, 7.2 percent were female and 92.8 percent were male. The research participants were between the ages of 20 and over 50 years old. The descriptive data for demographic characteristics are displayed in Table 2.

Table 2. Statistics about the Respondent's Demographics

S No.	Demographics	Categories	Percentage
1	Gender	Male	92.8%
		Female	7.2%
2	Age	20-30	10.2%
		31 - 40	31.1%
		41 - 50	42.6%
		51 Or Above	16.1.2%
3	Education	Undergraduates	1.1%
		Graduates	90.1%
		Masters	7.2%
		PHD	0.3%
		Others	1.3%
5	Location	Lahore	51.2%
		Faisalabad	27.6%
		Sialkot	21.2%
6	Current Organizational Experience	0-5	29%
		6-10	67.8%
		11-15	3.2%
		16-20	------
		21 or Above	------
7	Total Experience	0-5	19.5%
		6-10	7.5%
		11-15	30.3%
		16-20	35.4%
		21 or Above	7.8%
8	Industry Type	Leather Industry	54.4%
		Steel Industry	25.5%
		Textile Industry	17.2%

		Rice Industry	2.9%

4.3. Measurement Model

In total, there are three stages of data measurement and analysis: In the first part of the process, the researcher carried out a preliminary study of the scale by means of Exploratory Factor Analysis through the use of SPSS's Maximum likelihood and Varimax rotations. Step 2 involved performing additional validation on the factor structure, which was the output of EFA and was then forwarded to CFA, which was carried done using AMOS. The third step consisted of putting the hypotheses to the test by evaluating the structural model with AMOS.

Exploratory Factor Analysis

To examine the factor structure and inter-item connection, the researcher conducted EFA using the "maximum likelihood" approach with "Varimax Rotation". Following are tables 3, and 4, containing the outcomes of the rotated factor matrices:

Table 3. KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.934
Bartlett's Test of Sphericity	Approx. Chi-Square	8031.102
	df	325
	Sig.	.000

Because the "KMO" value exceeds that of value 0.50, it demonstrates that the criteria for adequate sampling have been met. As a result of the fact that the Bartlett test of Sphericity is statistically significant (P less than.05), it demonstrates that our correlation matrix is statistically distinct from an identity matrix, which is the result that we were hoping to achi

Table 4. Rotated Component Matrix					
Component	1	2	3	4	5
IPMP1					.804
IPMP2					.789
IPMP3					.781
IPRP1			.804		
IPRP2			.758		
IPRP3			.836		
IPRP4			.707		
IPRP5					

IPCP1				.845	
IPCP2				.813	
IPCP3				.809	
SSCMP1	.798				
SSCMP2	.830				
SSCMP3	.842				
SSCMP4	.845				
SSCMP5	.868				
SSCMP6	.828				
SSCMP7	.784				
SSCMP8	.863				
SSCMP9	.595				
CA1		.709			
CA2		.846			
CA3		.821			
CA4		.804			
CA5		.829			
CA6		.810			
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					
a. Rotation converged in 6 iterations.					

The exploratory factor analysis results show that the solution is based on three factors as was to be anticipated, and every item is loading according to its factors. As of now, the three-factor solution can account for 74% of the total variance. The exploratory factor analysis results show that our factors have a high level of validity. The following table 5 highlights the total variance explained by three facto

Table 5. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.216	43.140	43.140	11.216	43.140	43.140	6.716	25.833	25.833
2	3.120	12.001	55.141	3.120	12.001	55.141	4.641	17.851	43.684
3	2.192	8.432	63.572	2.192	8.432	63.572	2.814	10.822	54.506
4	1.543	5.935	69.507	1.543	5.935	69.507	2.708	10.417	64.923
5	1.245	4.787	74.294	1.245	4.787	74.294	2.437	9.372	74.294
Extraction Method: Principal Component Analysis.									

To further validate our findings, the researcher conducted a CFA, which will be covered in the following section.

Confirmatory Factor Analysis

To assess the quality of research and to determine how effectively an instrument measures or explains the intended study model. It is highly recommended in quantitative research techniques to verify the validity and reliability of a scale that has been previously evaluated by other researchers. The consistency of a scale is defined by its reliability, while its accuracy is defined by its validity. The reliability and validity of the scales used for the variables in the study were calculated using both the CFA and the "Cronbach alpha" reliability analysis. A CFA was performed to check the validity and convergence of the discriminant factors. Convergent validity refers to the amount of evidence that a latent construct has a percentage of variation in common with another construct. While discriminant validity refers to the level at which one construct may be distinguished from another construct. The graphical representation of the CFA final calculated model is shown below, followed by the results in table 6.

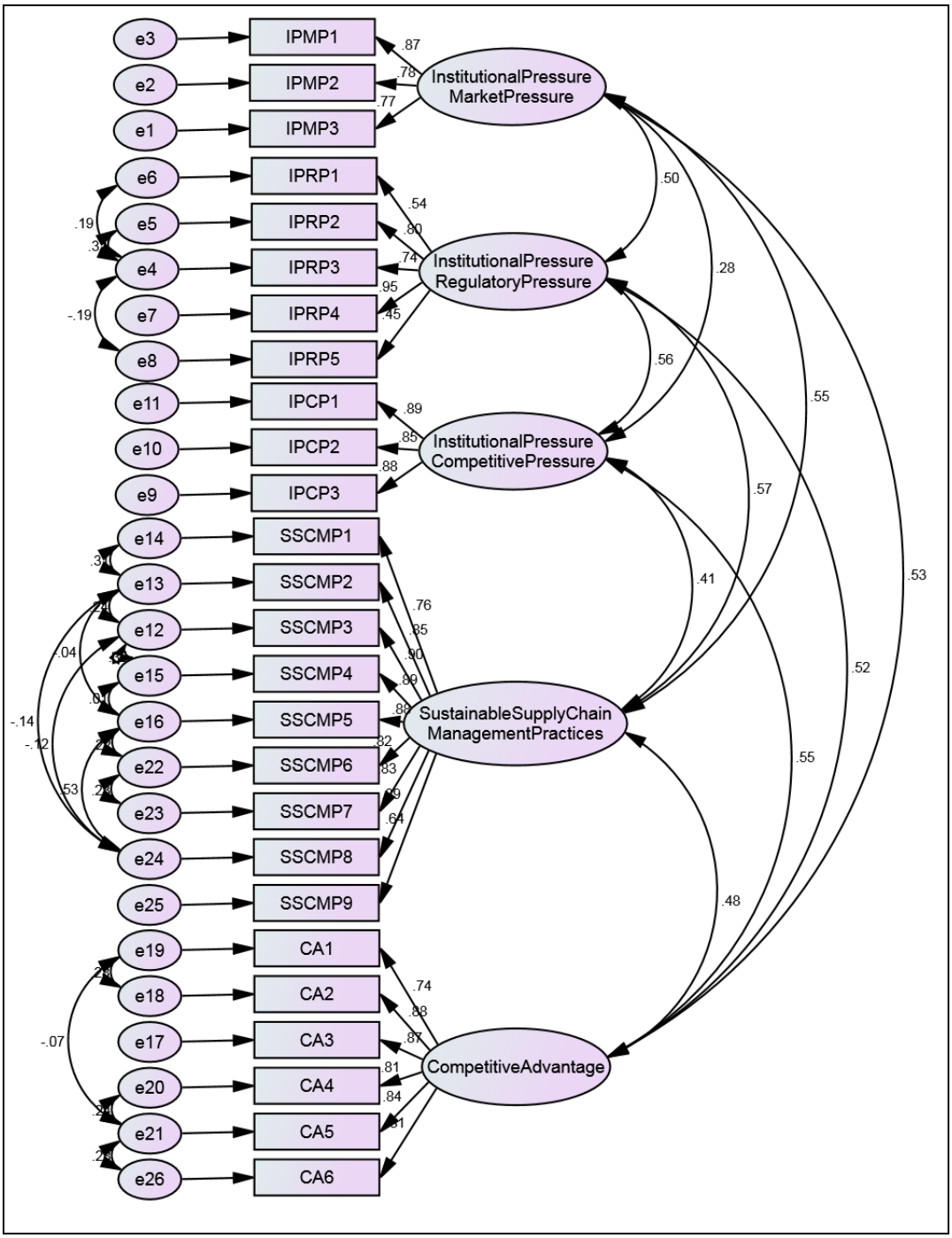

Figure 2. Confirmatory Factor Analysis

Table 6. Reliability and Convergent Validity						
Variables/ Constructs	Items	Standardized Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted	Maximum Shared Variance
Institutional Pressure-Market Pressure	IPMP1	.865	.845	.850	.654	.371
	IPMP2	.785				
	IPMP3	.772				
Institutional Pressure-Regulatory Pressure	IPRP1	.642	.826	.891	.732	.443
	IPRP2	.796				
	IPMP3	.735				
	IPMP4	.948				
	IPMP5	.454 Deleted				
Institutional Pressure-Competitive Pressure	IPCP1	.892	.907	.862	.672	.385
	IPCP2	.851				
	IPCP3	.883				
Sustainable Supply Chain Management Practices	SSCMP1	.758	.953	.951	.693	.441
	SSCMP2	.852				
	SSCMP3	.897				
	SSCMP4	.892				
	SSCMP5	.878				
	SSCMP6	.821				
	SSCMP7	.830				
	SSCMP8	.892				
	SSCMP9	.637				
Competitive Advantage	CA1	.736	.930	.934	.707	.367
	CA2	.880				
	CA3	.867				
	CA4	.810				
	CA5	.835				
	CA6	.825				
Model Fitness for final model:X2=457.22, df=272, X2/df= 1.68, RMSEA=.043, RMR=.053, GFI=.915, CFI=.977						

4.4. Hypotheses Testing (Structural Model)

To examine the relationship between the study hypotheses structural model was used with the help of AMOS. Each hypothesis was put to the test using a separate structural model to get accurate insights. As a result, three alternative structural models were utilized for the estimation process. The graphical, equational, and structural representation of the model is shown below, followed by the results.

4.4.1. Structural Model 1

$$CA_i = \beta_0 + \beta_1 IPMP_i + \beta_2 IPRP_i + \beta_3 IPCP_i + \varepsilon_i \quad (1)$$

Whereas β0 is the constant term, β1 is the coefficient of institutional pressure-market pressure IPMP, β2 is the coefficient of institutional pressure-regulatory pressure IPRP, β3 is the coefficient of institutional pressure-competitive pressure IPCP, and CA is a competitive advantage and Ɛ is the error term. Within this structural model, the effect of IPMP, IPRP, and IPCP on CA was examined (See Figure 3). The data were satisfactorily accounted for by the model, as evidenced by the equation "X2/df = 1.74", which demonstrates the model's overall good fit with the data. Additionally, the "CFI = 0.983", "TLI = 0.978", and "NFI = 0.962" scores fall into the optimal range of greater than 0.90 (Black & Babin, 2019). The current model's "RMR = 0.036" and "RMSEA = 0.045" are both under the recommended threshold of 0.09 proposed by (Steiger, 1990).

The findings of the initial estimation of the structural model one reveal that the IPMP, IPRP, and IPCP have a significant linear positive influence on CA "($\beta = 0.34$, $p < 0.05$)", "($\beta = 0.13$, $p < 0.05$), and ($\beta = 0.35$, $p < 0.05$) which provides evidence in support of the hypothesis H1. The findings suggest that companies and organizations with a high level of institutional pressure are in a better position to gain a superior competitive advantage than those without such a high level. By looking at the R2 value, institutional pressure can explain 45% of the variation in an organization's competitiveness.

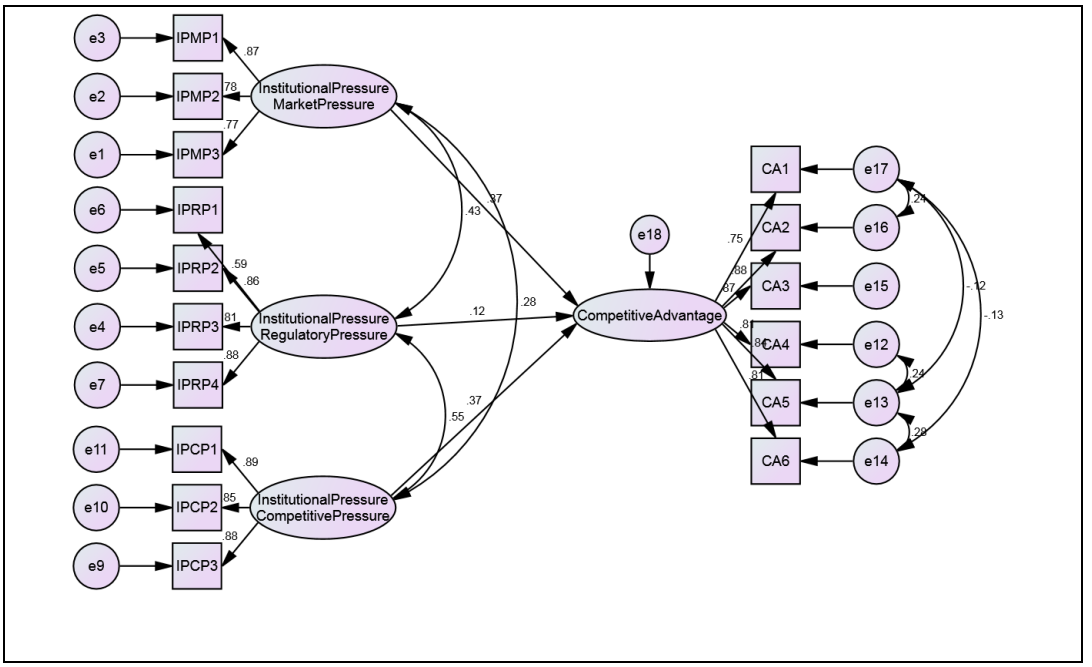

Figure 3. Structural Model 1

4.4.2. Structural Model 2

$$CA_i = \beta_0 + \beta_1 SSCMP_i + \varepsilon_i \qquad (2)$$

Whereas β0 is the constant term, β1 is the coefficient of variable specifically sustainable supply chain management practices SSCMP and CA is a competitive advantage, and Ɛ is the error term. Within this structural model, estimated the direct role of SSCMP on CA (See Figure 4). The data were satisfactorily accounted for by the model, as evidenced by the equation "X2/df = 1.77", which demonstrates the model's overall good fit with the data. Moreover, the "GFI = 0.955", "AGFI = 0.929", "CFI = 0.989", "TLI = 0.985", and "NFI = 0.975" scores fall into the optimal range of greater than 0.90 (Black & Babin, 2019). The current model's "RMR = 0.029" and "RMSEA = 0.045" are both under the recommended threshold of 0.09 proposed by (Steiger, 1990).

The findings of the estimation of the structural model two reveal that the SSCMP has a significant linear positive influence on CA "(β = 0.787, p < 0.05)", which provides evidence in support of the hypothesis H2. The findings suggest that companies and

organizations with a high level of SSCMP are in a better position to gain a superior CA than those without such a high level. By looking at the R2 value, SSCMP can explain 23% of the variation in an organization's competitive advantage.

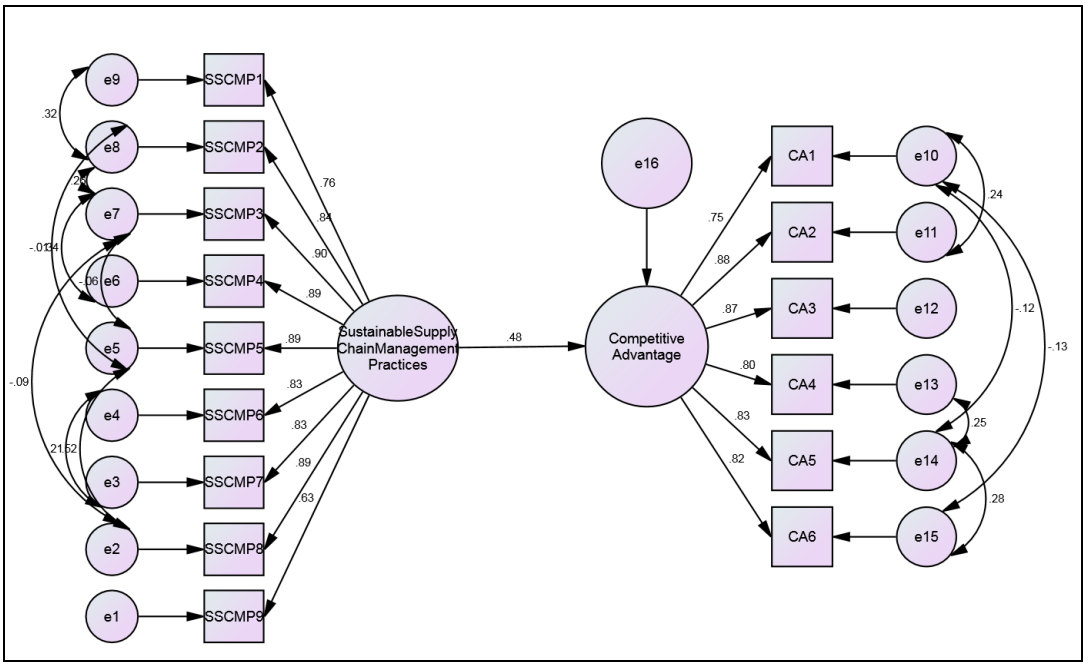

Figure 4. Structural Model 2

4.4.3. Structural Model 3 for Mediation Analysis

$$CA_i = \beta_0 + \beta_1 SSCMP_i + \beta_2 (IP - MP)_i + \beta_3 (IP - RP)_i + \beta_4 (IP - CP) + + \varepsilon_i$$

Whereas β0 is the constant term, β1 is the coefficient of the mediating variables particularly sustainable supply chain management practices SSCMP, β2 is the coefficient of institutional pressure-market pressure and β3 is the coefficient of institutional pressure-regulatory pressure, β4 is the coefficient of institutional pressure-customer pressure and Ɛ is the error term. The data were satisfactorily accounted for by the model, as evidenced by the equation "X2/df = 1.39", which demonstrates the model's overall good fit with the data. Moreover, the "GFI = 0.930", "AGFI = 0.910", "CFI = 0.987", "TLI = 0.985", and "NFI = 0.956" scores fall into the optimal range of greater than 0.90 (Black & Babin, 2019). The current model's "RMR = 0.047" and "RMSEA = 0.032" are

both under the recommended threshold of 0.09 proposed by (Steiger, 1990).

The researcher employed Preacher and Hays' suggested bootstrapping method to test the mediation hypothesis. The estimation bootstrapping procedure was used with 2000 samples, with a 90% confidence interval. This demonstrates that the indirect path of IPMP, IPRP, IPCP has a significant impact on CA when sustainable supply chain management practices are present in the organization "(β = 0.240, p 0.05)", "(β = 0.197, p 0.05)", "(β = 0.093, p 0.05)" supporting the hypothesis H3. Likewise, there is a statistically significant relationship between IPMP, IPRP, IPCP, and competitive advantage "(β = 0.304, p = 0.05)", "(β = 0.105, p = 0.05)", "(β = 0.328, p = 0.05)". Based on these key pathways, it appears that SSCMP may play a function as a mediator between IPMP, IPRP, IPCP, and competitive advantage. The results substantially support hypothesis H_3. The value of R2 shows that institutional pressure brings 41% changes in competitive advantage in the presence of sustainable supply chain management practices. Hence, hypothesis H_3 is accepted.

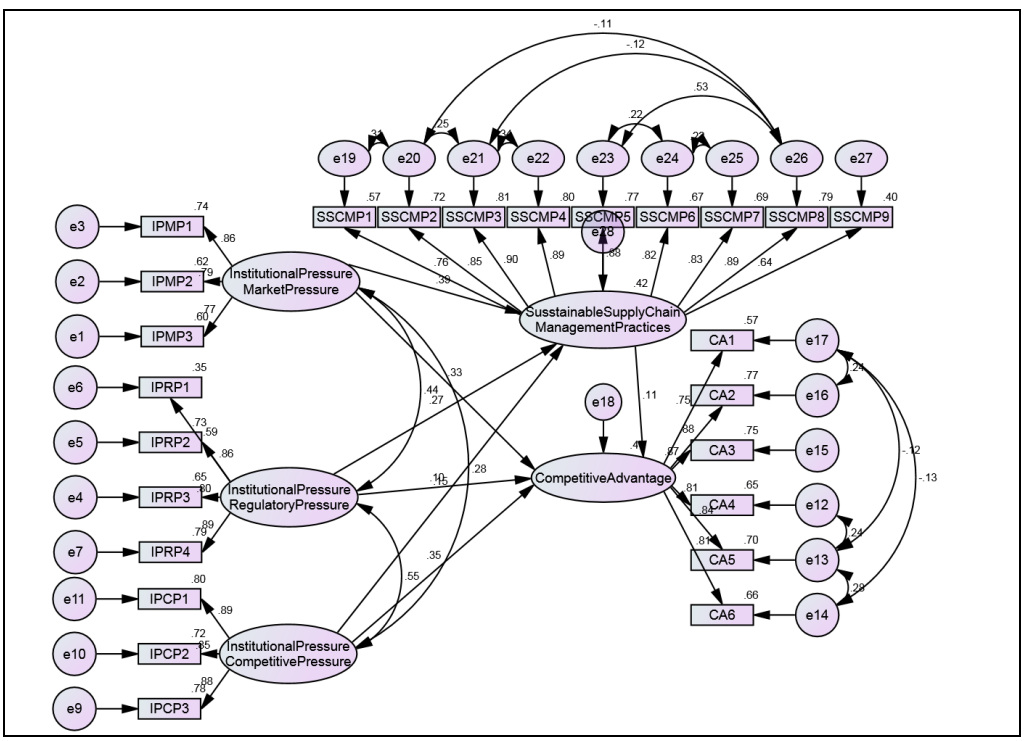

Figure 5. Structural Model 3

Table 7. Research Hypotheses Summary	
Hypothesis	**Remarks**
H_1: Institutional pressure (market pressure, regulatory pressure, competitive pressure) positively impacts the competitive advantage of the organization.	**Supported**
H_2: Sustainable supply chain management practices positively impact the competitive advantage.	**Supported**
H_3: Sustainable supply chain management practices mediate the relationship between institutional pressure and competitive advantage.	**Supported**

5. DISCUSSION

The current study is quantitative and employs a survey method with a cross-sectional approach as a research design to meet the study's primary goals and answer the research questions. In the current study, the researcher employed a non-probability sampling technique, specifically snowball sampling. The unit of analysis for this study is the manufacturing company's operations/logistics and supply chain managers. These individuals are the key respondents in manufacturing companies.

The questionnaire is best for explanatory and analytical research because it helps researchers understand cause-and-effect relationships between variables. (Saunders et al., 2019). Therefore, the questionnaire is adopted for the current research as it is considered to be the most suited research instrument for the assessment of the hypothesis and research questions. A total of around 600 questionnaires were distributed, and approximately 373 of them were returned in a form that could be used, yielding a response rate of approximately 62.16 percent.

To answer the stated study questions and to discover correlations between the variables of institutional pressure (market pressure, regulatory pressure, and competitive pressure), sustainable supply chain management practices, competitive advantage, and appropriate analytical techniques were employed. EFA has employed SPSS version 22 software to evaluate CFA, the mediating analysis through AMOS software version 22.

Keeping in view the dynamics of the current study variables this study adopts RBV theory as it manages and organized organizational resources efficiently. In this paradigm, organizational resources are acquired and used from the inside-out approach to gain a

competitive advantage in the market. Hence, RBV theory is the overarching theory for the current study.

The impact of institutional pressure on competitive advantage has been thoroughly investigated with the mediating role of sustainable supply chain management practices. It has been tested using structural equation models in AMOS.

To discover the response to research question number 1, hypothesis H1 was developed and examined. The findings supported hypothesis H_1 by demonstrating a substantial direct relationship between institutional pressure and competitive advantage. Further, institutional pressure can explain 45 percent of the variation in an organization's competitiveness, The present research is built on the grounds of the RBV theory as both views of the theory i.e. institutional pressure (market pressure, regulatory pressure, competitive pressure) and competitive advantage support the arguments and hypotheses of the current research. This means that when an organization will apply or have institutional pressure it ultimately will gain a competitive advantage in the market. The variable in this scenario has a strong positive significant relationship.

To ascertain the response to research question number 2, hypothesis H_2 was created and tested. The findings supported hypothesis H2 by demonstrating a significant direct relationship between sustainable supply chain management practices and competitive advantage. In addition, sustainable supply chain management practices can explain 23 percent of the variation in an organization's competitive advantage. The current findings supported hypothesis H2. If the organizations have valuable, rare, and unique resources like sustainable supply chain management practices then it is hard for other organizations to be copied and have a positive effect in gaining a competitive advantage.

Do sustainable supply chain management practices mediate the relationship between institutional pressure (market, regulatory, competitive) and competitive advantage? To discover the response to research question number 3, hypothesis H3 was developed and examined. Institutional pressure brings 41 percent changes in competitive advantage in the presence of sustainable supply chain management practices. The findings corroborated a mediating effect of corroborated between institutional pressure and competitive advantage. This is supporting hypothesis H3. Psychologically, this all means

that institutional pressure creates sustainable supply chain management practices in the organization which ultimately have a positive effect on competitive advantage. In support of the mediating variable. RBV theory suggests that when an organization implements intangible assets like institutional pressure the organization's capabilities increase i.e. sustainable supply chain management practices which can see the best mediating effect in the scenario of the current study.

5.1. Theoretical Contribution

This research attempts to make a significant contribution to the current body of knowledge on various perspectives of sustainability. First of all, this research is unique in that it has investigated; how institutional pressure affects the firm competitive advantage and how institutional pressure impacts sustainable supply chain management practices. This research is the first of its kind in this area to test the direct and indirect relationship. It has been found that institutional pressure has a substantial impact on the firm's competitive advantage. Due to shifting market trends, businesses can strengthen their supply chains by enhancing their knowledge-based activities to gain the necessary information and respond promptly to changing customer demands to achieve a competitive position in the market.

Secondly, this study examined the mediating role of sustainable supply chain management practices between institutional pressure and the firm competitive advantage. Accordingly, sustainable supply chain management practices are the best-suited mediators for the current study. Sustainable supply chain management practices are an explanatory variable for institutional pressure. When an organization implements institutional pressure, as a result, sustainable supply chain management practices are enhanced. Due to sustainable supply chain management practices organizations can achieve a competitive advantage. Psychologically, this all means that institutional pressure creates sustainable supply chain management practices in the organization which ultimately have a positive effect on competitive advantage. This type of study has never been done before, and this survey is thus different from earlier studies.

Fourthly, Khan, Golpira, Sharif, and Mardani, (2021) refer to Hong, Zhang, and Ding, (2018) as the amount of research conducted on sustainability in developing

countries is still very small. This study responds to this call by providing a better understanding of sustainability issues in an emerging economy like Pakistan.

Fifthly, in the context of RBV theory, this study is the first to investigate the relationship between institutional pressure, sustainable supply chain management practices, and competitive advantage. The variables: institutional pressure (market pressure, regulatory pressure, competitive pressure) is the firm intangible resources and sustainable supply chain management practices, which are the firm capabilities, and firm competencies resulted to achieve a competitive edge. Another way for the firm to be more competitive is to have valuable, rare, and unique items like sustainable supply chain management practices that are hard to imitate and have a significant effect on gaining a competitive advantage in the business environment.

Sixthly, in the context of the RBV theory, this research makes an empirical contribution to the RBV theory and extends its scope by proving the significance of the capabilities of institutional pressure and sustainable supply chain management practices that lead to a competitive advantage.

5.2. Applied Contribution

The results of the current study have given the company's supply chain and operations management advice on how to handle institutional pressure that might come from both internal and external sources to improve the firm's sustainable supply chain practices and increase performance.

The institutional pressures that have the greatest influence on the company's success will be discernible to the managers of the company. Additionally, it will help managers to identify which institutional pressure have the biggest effects on the organization's sustainable supply chain management practices.

6. CONCLUSION

The purpose of this research was to test some previously unexplored areas. Institutional pressure and competitive advantage have been studied extensively, but the results are inconclusive. Studies have missed the impact of institutional pressure on the path between sustainable supply chain management practices and competitive advantage.

This RBV-based study examined institutional pressure, competitive advantage, and sustainable supply chain management practices. A structured questionnaire was used to collect data from 373 managers in Pakistani manufacturing industries. Individuals working in industries dealing with sustainability issues, such as the leather, steel, textile, and rice industries, are targeted. SPSS was used for screening tests, and AMOS was used for structural equation modeling.

The research found that institutional pressure has a significant impact on an organization's sustainable supply chain management practices. Similarly, the development of institutional pressure can significantly increase competitive advantage. Furthermore, sustainable supply chain management practices mediate the relationship between institutional pressure and competitive advantage.

6.1. Limitation and Future Avenues

Even though this study has made some significant theoretical and practical contributions, it does have some limitations that could be addressed by future studies.

1. Within the context of the present investigation, the researcher pays special attention to see the relationship between institutional pressures on competitive advantage. Future studies could incorporate more institutional pressure.
2. The research at hand focuses on the mediating role of sustainable supply chain management practices, and nine items have been included. Future studies will include more items to examine the results in greater depth.
3. The current research is cross-sectional, although longitudinal research may be conducted in the future.
4. The theoretical model was established with an emphasis on individuals working in manufacturing companies as its primary target, without taking into account any other types of organizations. The district of Lahore, Faisalabad, and Sialkot, all located within Pakistan, was chosen to be the focus of this investigation. Other regions may be the focus of potential future studies.
5. Individuals from four different manufacturing industries were the main sources of data for this study, i.e. Leather Industry, Steel Industry, Textile Industry, and Rice Industry, Consequently, the findings appear valid for certain industries but

may not apply to all manufacturing industries. Hence, future research may be conducted to get the primary data from individuals of other industries like rubber, ceramic, poultry, milk-packaging, soap, automobile, beverage, plastic, footwear, electronics, paper, and ghee industries.

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