


UNVEILING THE NEXUS BETWEEN LEADERSHIP DYNAMICS AND INNOVATION CAPABILITIES IN DRIVING GREEN CREATIVITY: THE CRUCIAL MODERATING ROLE OF GREEN MOTIVATION AMONG SMES IN PAKISTAN

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ARTICLE INFO	ABSTRACT
<p>Article history: Received: January, 15th 2024 Accepted: March, 15th 2024</p>	<p>Objective: This study aims to explore the under-investigated area of green creativity within Pakistani SMEs by examining the influence of leadership dynamics (transformational and transactional leadership) and innovation practices.</p>
<p>Keywords: Green Motivation; Green Creativity; Leadership; SMEs; Pakistan.</p>	<p>Theoretical Framework: The research builds upon the concepts of green creativity, transformational leadership, transactional leadership, innovation practices, and green motivation.</p>
	<p>Method: A survey methodology was employed with a sample of 191 managers and owners of SMEs in Pakistan. Data analysis was conducted using SmartPLS software.</p>
	<p>Results and Discussion: The findings reveal positive relationships between transformational leadership, transactional leadership, innovation practices, and green creativity. However, green motivation was identified as a negative moderator in the relationship between innovation practices and green creativity. The study emphasizes the significance of leadership styles (transformational and transactional) and fostering a culture of innovation for driving green creativity within SMEs. Green motivation, while positive in itself, seems to hinder the impact of innovation practices on green creativity, requiring further investigation.</p>
	<p>Research Implications: This research contributes to the understanding of green creativity in SMEs by highlighting the facilitating role of leadership dynamics and innovation practices. It underscores the need for future research to delve deeper into the moderating effect of green motivation.</p>
	<p>Originality/Value: This study offers a valuable contribution to the existing environmental sustainability literature. It delves into green creativity within Pakistani SMEs, a previously unexplored area. By examining leadership styles, innovation</p>

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practices, and the surprising moderating role of green motivation, the research offers valuable insights for both businesses and policymakers to cultivate environmentally friendly practices within SMEs.

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REVELANDO O NEXO ENTRE A DINÂMICA DE LIDERANÇA E AS CAPACIDADES DE INOVAÇÃO NA PROMOÇÃO DA CRIATIVIDADE VERDE: O PAPEL MODERADOR CRUCIAL DA MOTIVAÇÃO VERDE ENTRE AS PMES DO PAQUISTÃO

RESUMO

Objetivo: Este estudo visa explorar a área pouco investigada da criatividade verde nas PMEs paquistanesas, examinando a influência da dinâmica de liderança (liderança transformacional e transacional) e das práticas de inovação.

Estrutura Teórica: A pesquisa baseia-se nos conceitos de criatividade verde, liderança transformacional, liderança transacional, práticas de inovação e motivação verde.

Método: Foi utilizada uma metodologia de inquérito a uma amostra de 191 gestores e proprietários de PME no Paquistão. A análise dos dados foi realizada utilizando o software SmartPLS.

Resultados e Discussão: Os resultados revelam relações positivas entre liderança transformacional, liderança transacional, práticas de inovação e criatividade verde. Contudo, a motivação verde foi identificada como um moderador negativo na relação entre práticas de inovação e criatividade verde. O estudo enfatiza a importância dos estilos de liderança (transformacional e transacional) e da promoção de uma cultura de inovação para impulsionar a criatividade verde nas PME. A motivação verde, embora positiva em si, parece dificultar o impacto das práticas de inovação na criatividade verde, exigindo uma investigação mais aprofundada.

Implicações da Pesquisa: Esta investigação contribui para a compreensão da criatividade verde nas PME, destacando o papel facilitador da dinâmica de liderança e das práticas de inovação. Ressalta a necessidade de pesquisas futuras aprofundarem o efeito moderador da motivação verde.

Originalidade/Valor: Este estudo oferece uma contribuição valiosa para a literatura existente sobre sustentabilidade ambiental. Ele investiga a criatividade verde nas PME paquistanesas, uma área até então inexplorada. Ao examinar estilos de liderança, práticas de inovação e o surpreendente papel moderador da motivação verde, a investigação oferece informações valiosas para que tanto as empresas como os decisores políticos possam cultivar práticas amigas do ambiente nas PME.

Palavras-chave: Motivação Verde, Criatividade Verde, Liderança, PMEs, Paquistão.

REVELANDO EL NEXO ENTRE LA DINÁMICA DE LIDERAZGO Y LAS CAPACIDADES DE INNOVACIÓN EN EL FOMENTO DE LA CREATIVIDAD VERDE: EL PAPEL MODERADOR CRUCIAL DE LA MOTIVACIÓN VERDE ENTRE LAS PYMES DE PAKISTÁN

RESUMEN

Objetivo: Este estudio tiene como objetivo explorar el área poco investigada de la creatividad verde dentro de las PYMES paquistanés mediante el examen de la influencia de la dinámica del liderazgo (liderazgo transformacional y transaccional) y las prácticas de innovación.

Marco Teórico: la investigación se basa en los conceptos de creatividad verde, liderazgo transformacional, liderazgo transaccional, prácticas de innovación y motivación verde.

Método: Se empleó una metodología de encuesta con una muestra de 191 gerentes y propietarios de PYMES en Pakistán. El análisis de los datos se realizó utilizando el software SmartPLS.

Resultados y Discusión: Los hallazgos revelan relaciones positivas entre el liderazgo transformacional, el liderazgo transaccional, las prácticas de innovación y la creatividad verde. Sin embargo, la motivación verde fue identificada como un moderador negativo en la relación entre las prácticas de innovación y la creatividad verde. El estudio enfatiza la importancia de los estilos de liderazgo (transformacional y transaccional) y el fomento de una cultura de innovación para impulsar la creatividad verde dentro de las PYME. La motivación verde, si bien es positiva en sí misma, parece obstaculizar el impacto de las prácticas de innovación en la creatividad verde, por lo que es necesario realizar más investigaciones.

Implicaciones de la Investigación: Esta investigación contribuye a la comprensión de la creatividad verde en las PYMES al resaltar el papel facilitador de las dinámicas de liderazgo y las prácticas de innovación. Subraya la necesidad de que futuras investigaciones profundicen en el efecto moderador de la motivación verde.

Originalidad/Valor: Este estudio ofrece una valiosa contribución a la literatura existente sobre sostenibilidad ambiental. Profundiza en la creatividad verde dentro de las PYMES paquistaníes, un área previamente inexplorada. Al examinar los estilos de liderazgo, las prácticas de innovación y el sorprendente papel moderador de la motivación ecológica, la investigación ofrece información valiosa para que tanto las empresas como los responsables de la formulación de políticas cultiven prácticas respetuosas con el medio ambiente dentro de las PYME.

Palabras clave: Motivación Verde, Creatividad Verde, Liderazgo, PYME, Pakistán.

1 INTRODUCTION

During the recent years, the titles like green management, environmental sustainability, and green business practices have got much attention by the researchers and policy makers both in developed and developing economies. In this regard, there is a growing pressure over the business firms to reduce their waste materials specifically those which are creating environmental degradation (Amen et al., 2021; Asad, Aledeinat, Majali, Almajali, & Shrafat, 2024; Baloch et al., 2021; Chien et al., 2021; Khan, Yu, & Farooq, 2022; Okoro, 2023). Meanwhile, in the field of academic literature, there is an ongoing interest towards green innovation, green practices and environmental concerns from traditional business deliberation.

A contemporary phenomenon is that those firms which are more focusing on green practices, green creativity, and green innovation would reap the benefit of cutting edge over the rivals with some sustainable market share too (Bibri et al., 2024; Jianjun et al., 2021; Khan, et al., 2022; Morched et al., 2023). At the same time, some authors claim that through transforming green creativity into some sustainable products or services, firms can handle the issues like environmental degradation (Chen & Chang, 2013a; Li et al., 2020; Okoro, 2023; Zheng, 2024). Meanwhile, with the help of green creativity, firms can attain a green edge under some innovative environment too. One of the core concept about green creativity is determined by (Asad et al., 2024; Cahyono & Nugroho, 2022; Song & Yu, 2018) who claim that through useful and original green ideas firms work on their products, services and business practices as well. However, the idea of green creativity is also associated with the leadership dynamics and overall attitude of the organizational towards ecological concerns too. (Mittal & Dhar, 2016) have provided the argument that transformational leadership under green titles helps in promoting the employee's creative behavior which may further help in dealing with the environmental degradation and related issues. On the other side, the impact of transactional leadership in determining the creativity of the employees is also observed by the researchers. For example, (Sanda & Arthur, 2017) have stated that managers at workplace are using transactional leadership in promoting the creativity of the employees.

However, the green perspective of creativity is not investigated by the researchers till date which indicate a big gap to address.

In addition, (Abbas et al., 2024; Song et al., 2020; Tuan, 2023) claims that for the sustainability of the firm, green product innovation is a critical role player and some studies have tried to focus on it. (Afeltra et al., 2023; Song & Yu, 2018) have claimed that modern organizations are facing various challenges where the role of innovation is very important towards sustainable development which can also offer sustainable development. However, the promotion of green creativity in any organization is not possible without working through green motivation among the employees. In this regard, the significance of green motivation is expressed by (Ahmed et al., 2021; Asad, et al., 2024; Okoro, 2023) who stated that such practices an improve the environmental performance. For this reason, The primary objective of this study is to examine the influence of leadership dynamics and innovation practices on green creativity within the context of Small and Medium-sized Enterprises (SMEs) in Pakistan. Furthermore, we also investigate the role of green motivation as a moderator between leadership dynamics, innovation practices and green creativity. The subsequent sections of the paper are structured as follows: Section two provides an in-depth discussion of the relevant literature, while Section three elucidates the research methods employed in this study. Section four indicates the results and discussion whereas last section covers the conclusion, policy implications and future directions.

2 LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 LEADERSHIP AND GREEN CREATIVITY

The present research critically evaluates the scholarly contributions to the intersection of leadership and green creativity, with a focus on recent advancements in the field. Notably, (Arici & Uysal, 2022; Farrukh et al., 2023; Jia et al., 2018; Li et al., 2020; Shehzad et al., 2024) have delved into the correlation between transformational leadership and green creativity, examining the associated influence on employees' green passion. The empirical investigations align with the theoretical framework of ability-motivation-opportunity, revealing that transformational leadership plays a pivotal role in determining green creativity among employees. Furthermore, (Hasan et al., 2024; Tuan, 2020) endeavors to scrutinize the impact of environmentally-friendly servant leadership on the cultivation of green creativity within the

workforce. The study establishes a direct and statistically significant effect of this leadership style on employees' green creativity. In a related vein, consider the mediating role of green creativity in shaping the relationship between transformational leadership and green product development. The findings indicate that green creativity serves as a partial mediator in the association between transformational leadership and the advancement of green products. Additionally, Arici and Uysal (2022) and Zhang et al. (2020) explore the ramifications of green transformational leadership on the green creativity of employees across 23 companies. The results affirm a positive and substantial influence of green transformational leadership in determining green creativity among the targeted employees in the specified companies. (Arici & Uysal, 2022; Hu et al., 2024; Zhang et al., 2020). Conversely, Li et al. (2020) and Ma and Jiang (2018) undertake an investigation into the linkage between transformational leadership, transactional leadership, and employee creativity (Li et al., 2020; Ma & Jiang, 2018; Nawaz et al., 2024; Nguyen et al., 2023). The findings elucidate the absence of a direct impact of transformational leadership on employee creativity, while revealing a significant and positive influence of transactional leadership on the creative output of employees. Based on the above literature, following hypotheses are suggested under present study:

H1: "The role of transformational leadership is significant in determining the green creativity among the SMEs of Pakistan".

H2: "The role of transactional leadership is significant in determining the green creativity among the SMEs of Pakistan".

2.2 INNOVATION PRACTICES AND GREEN CREATIVITY

Researchers have undertaken an examination of the connection between innovation practices and green creativity, albeit within a delimited scope. Specifically, scholars such as Arici and Uysal (2022), Hameed et al. (2022), and Song and Yu (2018) have explored the correlation between green innovation strategy, green creativity, and green organizational identity. Their empirical investigations reveal a statistically significant and positive influence of green innovation strategy on green creativity. The study findings imply that maintaining a strong sense of green identity is imperative for fostering green creativity, offering managerial insights (Arici & Uysal, 2022; Hameed et al., 2022; Song & Yu, 2018). In a related vein, Adomako and Nguyen (2023), Hameed et al. (2022), and Zhang et al. (2020) have conducted analyses regarding the role of green innovation strategy as a boundary spanner in determining green creativity. The research

contributes to an understanding of the nuanced dynamics between green innovation strategy and the facilitation of green creative processes. These insights underscore the managerial significance of considering the boundary-spanning function of green innovation strategy in the pursuit of enhanced green creativity within organizational contexts (Adomako & Nguyen, 2023; Hameed, et al., 2022; Zhang, et al., 2020) have also analyzed the green innovation strategy as a boundary spanner in determine the green creativity. Data was collected from 298 employees and tested through structural equation modelling technique. It is found that green innovation strategy as used by the boundary spanner can affect the creative process engagement. (Fields & Atiku, 2019; Suliman et al., 2023) have observed the linkage between eco-innovation and green creativity in order to investigate the sustainable business solutions in organizations. Their study was based on the review of the existing literature based on the variables of interest. The study findings confirm that both green creativity, and green innovation are leading towards effective and sustainable business solutions. However, the rest of the literature investigation have confirmed that both innovation and green creativity are investigated individually which justifies a big literature gap which needs to be covered both in theoretical and empirical perspective. For this reason, H3 is proposed under this study

H3: “The role of innovation practices is significant in determining the green creativity among the SMEs of Pakistan”.

2.3 GREEN MOTIVATION

The title of green motivation (GM) is also investigated both in direct and indirect ways by the researchers in the field of sustainability and business. In this context, a recent inquiry conducted by Li et al. (2020) delves into the function of green intrinsic motivation as an intermediary variable between green transformational leadership and green creativity is a focal point of investigation in this study. Concurrently, green extrinsic leadership assumes a moderating role in the intrinsic motivation for green creativity among employees in the information technology industry of India. The study's outcomes validate the existence of partial mediation by green intrinsic motivation in the relationship between leadership within the dynamics of transformation and green creativity. (Asad, et al., 2024; Henriques et al., 2023; Li et al., 2020). Moreover et al. (2020) scrutinize the mediating function of green motivation concerning exogenous constructs such as environmental ethics, institutional environment, and managerial support in determining a company's green behavior. The findings highlight a

significant mediating role played by green motivation in bridging the exogenous and endogenous constructs of the study (Henriques et al., 2023; Junsheng et al., 2020). Furthermore, Ahmed et al. (2021) investigate the impact of green HR practices on determining green motivation and environmental management within the hotel industry. (Ahmed, et al., 2021). The study findings through partial least square indicate that green motivation promotes the environmental performance. Bases on the above studies, it is inferred that green motivation is not widely observed specifically from the context of moderator on the relationship between leadership dynamics, innovation, and green creativity. This would justify a reasonable literature gap both in theoretical and empirical perspective. Therefore, present study intends to investigate the role of green motivation as a moderator on the relationship between explanatory variables and green creativity for the SMEs of Pakistan. Therefore, following hypotheses are suggested:

H4: “Green motivation is significantly determining the green creativity among the SMEs of Pakistan”.

H5: “There is a moderating effect of green motivation on the relationship between transformational leadership and green creativity among the SMEs of Pakistan”.

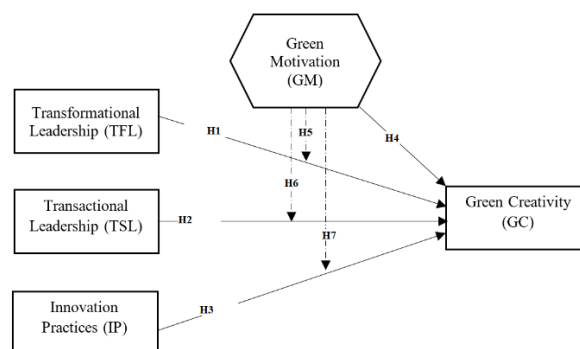
H6: “There is a moderating effect of green motivation on the relationship between transactional leadership and green creativity among the SMEs of Pakistan”.

H7: “There is a moderating effect of green motivation on the relationship between innovation practices and green creativity among the SMEs of Pakistan”.

Based on the above literature and stated hypotheses, Figure 1 shows the framework of the study.

Figure 1

Framework of the Study



Source: Authors

2.4 RESEARCH METHODS

In this research, authors have collected the data from SMEs sector of Pakistan as located in different areas. The core reason to select SMEs industry for the data collection is that it is under little investigation by the researchers specifically from the context of green practices. Furthermore, in the economy of Pakistan, there is a growing share of SMEs in the economic growth. For this reason, various incentives are provided by the government to promote the SMEs in the country. However, before collecting the data, a structural questionnaire was developed while taking the various items for the explanatory variables, green motivation, and green creativity from existing literature. Five points Likert scale was used ranging from strongly disagree as 1 to strongly agree as 5. For the measurement of green creativity as main endogenous construct, overall six items were adopted from the research work as provided by (Chen & Chang, 2013b) whereas the measurement of transformation leadership was based on the seven items as provided by (Rubin et al., 2005). Additionally, transactional leadership was measured through four items as presented in the research work of (Martínez-Córcoles & Stephanou, 2017). For the measurement of innovation practices, five items were extracted from the research work of (Subramanian & Nilakanta, 1996). Lastly, the idea of green motivation was measured through six items from the research work of (Dibrell et al., 2011), (Zibarras & Coan, 2015), and (Fernández et al., 2003), respectively. After the development of questionnaire, sample size was selected through G-power estimation. Minimum sample size for this study was 98 using G-power. However, 191 was taken for this study that shows appropriate sample size from owners and managers of SMEs in Pakistan. Besides, demographic factors like age, gender, qualification, and working experience were also added in the study questionnaire.

After data collection, Smart-PLS was used to empirically analyze the data. Various techniques are provided in the present literature to examine the data trends and for the hypotheses testing. However, two step approach is found to be the most reliable and most cited in the recent literature (Bido & Silva, 2019; Khoshmaram, Zarafshani, Alibaygi, & Mirakzadeh, 2017; Ramayah, Cheah, Chuah, Ting, & Memon, 2018). Therefore, this research has analyzed the data through measurement model assessment (i.e. the first step under two-step approach) and structural model assessment (i.e. second step). Measurement model assessment helps to check the reliability and validity of the construct, whereas hypotheses testing is conducted with the help of structural model.

3 RESULTS AND DISCUSSION

Table 1 reports the demographic details of the respondents in terms of gender, age, qualification, and working experience, whereas Table 2 shows the descriptive scores through minimum and maximum, mean values, and standard deviation in the mean scores of the study.

Table 1

Demographic Factors

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	109	57.1	57.1	57.1
	Female	82	42.9	42.9	100.0
	Total	191	100.0	100.0	
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25 Years	59	30.9	30.9	30.9
	26-30 Years	72	37.7	37.7	68.6
	above 30 Years	60	31.4	31.4	100.0
	Total	191	100.0	100.0	
Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below Graduation	160	83.8	83.8	83.8
	Graduation	23	12.0	12.0	95.8
	above Graduation	8	4.2	4.2	100.0
	Total	191	100.0	100.0	
Working Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-1 Years	86	45.0	45.0	45.0
	1-2 Years	36	18.8	18.8	63.9
	3-4 Years	25	13.1	13.1	77.0
	above 4 Years	25	13.1	13.1	90.1
	5.00	19	9.9	9.9	100.0
	Total	191	100.0	100.0	

Source: Authors

Table 2

Descriptive Statistics

Items	N	Minimum	Maximum	Mean	Std. Deviation
IP1	191	1	5	4.1152	0.87499
IP2	191	1	5	4.3351	0.94188
IP3	191	1	5	4.3194	0.9277
IP4	191	1	5	4.1623	0.83341
IP5	191	2	5	3.9843	0.88542
GC1	191	1	5	3.8325	0.95872
GC2	191	1	5	3.9581	0.86956
GC3	191	1	5	3.9267	0.80451
GC4	191	1	5	3.9372	0.88629

GC5	191	1	5	4.0524	0.78632
GC6	191	2	5	4.0995	0.88588
TFL1	191	1	5	3.5654	0.98122
TFL2	191	1	5	3.7592	0.88532
TFL3	191	1	5	4.1204	0.91257
TFL4	191	1	5	4.0105	0.97866
TFL5	191	1	5	3.9738	0.88517
TFL6	191	1	5	3.6545	0.91535
TFL7	191	1	5	3.623	1.00749
GM1	191	2	5	3.8482	0.80327
GM2	191	2	5	3.7068	0.72396
GM3	191	2	5	3.9005	0.76472
GM4	191	2	5	3.8901	0.79037
GM5	191	2	5	3.7592	0.8301
GM6	191	1	5	3.7487	0.88834
TSL1	191	1	5	3.4346	1.02324
TSL2	191	1	5	3.2932	1.07992
TSL3	191	1	5	3.4503	0.9383
TSL4	191	1	5	2.644	0.98886

Source: Authors

For measurement model assessment, Table 3 reports the values for the construct reliability and validity. It is observed that Cronbach alpha scores for all the variables are observed as above 0.70 and similar is accepted for the rho_A where all the study variables have shown the scores above 0.80. Additionally, the values for the composite reliability and average variance extracted are also above the threshold level of 0.70, and 0.50, respectively. This justifies the argument that there is no problem for the construct reliability and validity.

Table 3

Construct Reliability and Validity

Variables	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
GC	0.876	0.892	0.907	0.620
GM	0.945	0.965	0.956	0.782
IP	0.796	0.821	0.878	0.705
TFL	0.77	0.811	0.818	0.602
TSL	0.841	0.873	0.902	0.755

Source: Authors

Table 4 presents the outcomes of the Fornell-Larcker Criterion, facilitating an examination of the extent of shared variance among the latent constructs in the study. Furthermore, the Fornell-Larcker Criterion serves as a tool for assessing the convergent validity

of the model. In accordance with the guidelines outlined by Fornell and Larcker (1981), a comparison was conducted between the square roots of Average Variance Extracted (AVE) for each variable and the correlations among the latent constructs. Moreover, Table 5 displays the loadings and cross loadings for the individual study items within the latent constructs. The loadings for GC range from 0.652 to 0.833, as illustrated by GC1 and GC3, respectively. Similarly, the loadings for the items fall within the range of 0.851 to 0.921, demonstrating commendable factor loadings. Additionally, the study items for IP also exhibit favorable factor loadings. Finally, the loadings for transformation loadings and transactional leadership's items are also above 0.70. This would justify the argument that there is no problem for the loadings and cross loadings under each of the study items as shown in Table 5. Besides, items with the lower loadings were deleted from the model.

Table 4*Fornell-Larcker Criterion*

	GC	GM	IP	TFL	TSL
GC	0.788				
GM	0.316	0.884			
IP	0.639	0.203	0.840		
TFL	0.540	0.216	0.615	0.776	
TSL	0.071	-0.002	0.001	0.054	0.869

Source: Authors

Table 5*Loadings and Cross Loadings for the Study items*

	GC	GM	IP	TFL	TSL
GC1	0.652	0.329	0.376	0.144	0.019
GC2	0.832	0.408	0.609	0.494	0.083
GC3	0.833	0.192	0.533	0.437	0.069
GC4	0.789	0.148	0.492	0.509	0.002
GC5	0.809	0.106	0.509	0.448	0.085
GC6	0.795	0.298	0.460	0.444	0.061
GM1	0.241	0.886	0.172	0.220	-0.075
GM2	0.256	0.881	0.202	0.177	-0.020
GM3	0.332	0.924	0.143	0.207	0.017
GM4	0.280	0.891	0.228	0.231	0.006
GM5	0.159	0.851	0.184	0.213	0.016
GM6	0.336	0.871	0.165	0.127	0.031
IP1	0.628	0.256	0.835	0.568	0.014
IP2	0.395	0.147	0.809	0.438	-0.042
IP3	0.538	0.088	0.874	0.518	0.016

TFL1	0.373	0.175	0.398	0.710	-0.024
TFL2	0.273	0.144	0.250	0.724	0.044
TFL4	0.543	0.183	0.667	0.882	0.088
TSL1	0.055	0.032	0.005	0.075	0.852
TSL2	0.050	-0.009	-0.004	0.032	0.880
TSL3	0.074	-0.022	0.000	0.036	0.874

Source: Authors

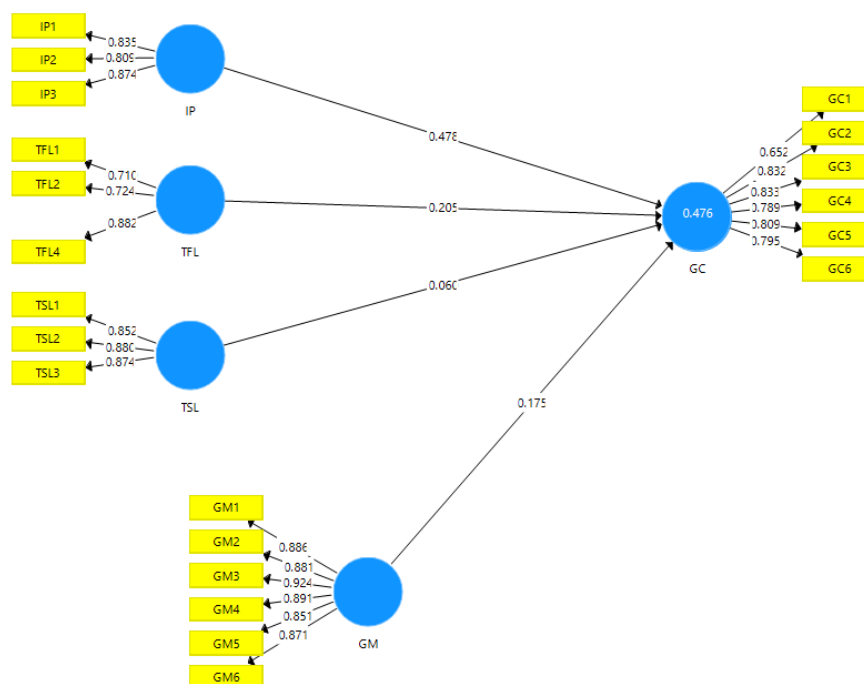
The findings under Table 6 shows the output for the HTMT ratio. This approach was introduced by (Henseler et al., 2015). For the better understanding, HTMT helps to understand the discriminant validity between the two latent constructs while going for the structural equation modelling technique. It is accepted that if the HTMT ratio between the two latent construct is less than 0.90, than it is concluded that there is a discrimination between the two latent constructs. More specifically, the HTMT ratio between all of the latent constructs is reasonably lower than the threshold level of 0.90. Therefore, it is concluded that there is a significant HTMT ratio between the latent constructs, so we can move on towards implementing the structural model assessment under present study. More specifically, Figure 2 provides the measurement model output containing the factor loadings for each of the latent construct.

Table 6

Heterotrait-Monotrait Ratio (HTMT)

	GC	GM	IP	TFL	TSL
GC					
GM	0.330				
IP	0.730	0.228			
TFL	0.658	0.273	0.748		
TSL	0.081	0.047	0.043	0.105	

Source: Authors

Figure 2*Measurement Model Output*

Source: Authors

3.1 ASSESSMENT OF STRUCTURAL MODEL

Following the comprehensive evaluation of the measurement model through various model fit indices, the subsequent phase involves scrutinizing the interrelationships among the study variables by means of structural model assessment. This method is also known as structural equation modelling and various studies have justified its theoretical and empirical implications (Ali et al., 2018; Kohn et al., 2011; Newaz et al., 2020). The path coefficient under Table 7 is reporting both direct and indirect association among the study constructs. The findings of the study confirm that there is a significant and positive impact of innovation practices on green creativity in the SMEs sector of Pakistan. This means that higher innovation practices are creating a change of 0.470 in the value of green creativity for the SMEs. In recent years, numerous scholars have explored the correlation between innovation and green creativity. For instance, Zhang et al. (2020) conducted an investigation into the relationship between innovation and green creativity, involving a sample of 298 employees from 23 companies. (Zhang, et al., 2020) Similarly, Song and Yu (2018) delved into the association between innovation strategy and green creativity. Their research revealed a statistically significant and positive relationship between innovation and green creativity. In light of the

aforementioned findings and the extant literature, the affirmation of a positive association between innovation practices and green creativity is warranted (Song & Yu, 2018).

In addition, the findings under structural modelling shows that transformation leadership is positively and significantly determining the level of green creativity. More specifically, unit change in the value of TFL tends to a change of 0.226 in the value of green creativity. In this regard, the relationship between TFL and GC is also investigated by the earlier researchers. For example, (Mittal & Dhar, 2016) have collected the data from the employees and managers working at tourist hotels in India. The study findings confirm that TFL has its significant and positive impact on the green creativity. Additionally, (Chen & Chang, 2013b) have also observed the positive linkage between transformational leadership and green creativity. Therefore, their relationship is supported. However, the study findings under Table 7 indicate that TSL is showing its positive but insignificant impact on green creativity whereas the direct impact of green motivation on green creativity is also observed as positively insignificant under full sample consideration.

After determining the direct association between the study variables, moderating effect of green motivation on the relationship between exogenous variables and green creativity is also examined. The results show that the first interaction term is generated with the help of innovative practices and green motivation. The results indicate a substantial and adverse moderating influence of GM on the association between IP and GC. This observation is substantiated by a coefficient of -0.282, a standard error of 0.090, and a t-score of 3.147, attaining significance at the 1 percent level. The implication is that while the direct influence of IP on GC is notably positive, the introduction of GM transforms this effect into a significant negative impact. Multiple rationales can be posited to elucidate this noteworthy and negative moderating effect of GM within the IP-GC relationship. An inherent explanation for the adverse moderating impact of GM on the IP-GC relationship is the diminished enthusiasm and commitment resulting from incentives for green creativity. Specifically, the provision of rewards may attenuate the intrinsic motivation and autonomy associated with engaging in environmentally-oriented tasks. Additionally, the presence of such extrinsic motivation may foster a perception that green creativity is not primarily driven by internal environmentally conscious motives but is influenced by external factors not considered in the current study. This concept was reasonably justified by earlier studies like (Li et al., 2020). Furthermore, the interaction effect of TFL and GM has also provided the evidence for the significant but negative impact on GC. Although the direct impact of TFL on GC is highly significant and positive

while justifying the claim that for the SMEs in Pakistan, transformational leadership is playing its constructive role in determining the environmental or green creativity. However, with the presence of GM, this effect turns into significant and negative, providing the justification that SMEs in Pakistan are not good in showing green motivation towards their employee which is leading towards negative moderating effect between TFL-GC. Another reason might be due to the fact that GM is still in emerging phase specifically for the SMEs where no distinguish is made between extrinsic or intrinsic green motivation. In this regard, such findings are observed as another significant contribution in the existing literature which revealed that GM is always not a good sign for promoting the association between TFL and GC, hence employees and managers at SMEs should provide with more knowledge and workplace environment towards green motivation in order to attain some fruitful results in the coming time. Lastly, our study has observed a positive but insignificant moderating effect of GM on the relationship between TSL and GC, therefore, H7 is not supported. Figure 3 provides the output for the structural model of the study.

Table 7

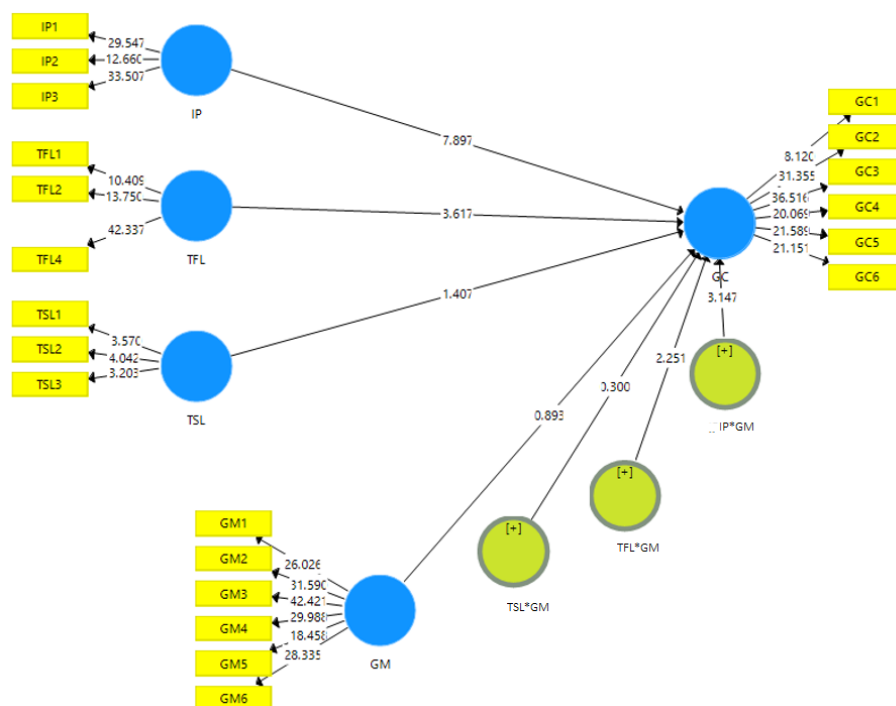
Path Coefficients for Direct and Indirect Relationship

Hypotheses	Directions	Original Sample (O)	Sample Mean (M)	STDEV	T-Value	P Values
H3 (Accepted)	IP -> GC	0.470	0.466	0.059	7.897	0.000
H1 (Accepted)	TFL -> GC	0.226	0.235	0.063	3.617	0.000
H2 (rejected)	TSL -> GC	0.090	0.085	0.064	1.407	0.160
H4 (rejected)	GM -> GC	0.055	0.058	0.061	0.893	0.372
H7 (Accepted)	IP*GM -> GC	-0.282	-0.264	0.090	3.147	0.002
H5 (Accepted)	TFL*GM -> GC	-0.162	-0.168	0.072	2.251	0.024
H6 (Rejected)	TSL*GM -> GC	0.015	0.013	0.051	0.300	0.764

Source: Authors

Figure 3

Output For Structural Model



Source: Authors

4 CONCLUSION AND POLICY IMPLICATIONS

Achieving a sustainable and green growth is observed as a core objective for both domestic and international firms. However, such targets can only be achieved if business firms will work through green choices while taking into account the environmental accords. Therefore, companies need to work for the innovative and green products whose environmental impact would be minimum. Meanwhile, the role of leadership in leading towards green practices and green creativity is very important. This study has examined the association between innovation practices, transformational leadership, transactional leadership and green creativity for the SMEs in Pakistan. With the help of structural equation modelling technique, the results confirm that both transformational and transactional leadership are positively and significantly determining the green creativity among the SMEs. Similarly, innovation practices are also leading towards green creativity. Furthermore, moderating role of green motivation is also empirically tested. However, the findings through PLS-SEM approach indicate that green motivation is negatively determining the association between IP-GC and between TFL-GC for the SMEs in Pakistan. This substantiates the assertion that green motivation is currently in an incipient stage, lacking affirmative indications of its efficacy in championing the influence of

leadership and innovation in shaping green creativity. Therefore, firstly it is suggested that leadership at SMEs should counsel and motivate their employees and managers in a right direction in order to achieve environmentally friendly outcomes through green motivation and green creativity. Furthermore, some practical and policy implications are also associated with this study. For instance, our study is endorsing the applicability of green creativity with the help of innovation practices and leadership dynamics. However, for achieving some outstanding results, it is also suggested that more attention should be paid towards green motivation of the owners and managers both in extrinsic and intrinsic perspective. Finally, this study is also associated with some limitations. First, it is based on the survey-based research with no consideration for the longitudinal or experimental design. Second, only SMEs sector of Pakistan is under consideration which specifies the sectoral limitation of this research. Thirdly, the moderating effect of overall green motivation is investigated with no division for the intrinsic and extrinsic green motivations. It is strongly recommended that forthcoming research endeavors address the identified limitations to attain strategic outcomes.

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