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How do Social Media Platforms Shape the Public Perception and Support of Policy Issues and Initiatives in Climate Change?

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Abstract
The motivation behind this examination is to explore the relationship between social media platforms' effects on public perception and support of public issues in climate change. The paper embraced a quantitative exploration plan and utilized a survey method to collect data from 185 students of private and government sector education institutions in Lahore via a self-online administrative survey. The paper applied SEM to examine the hypotheses and analyse the data. The paper found that social media platforms affected public perception and support of public issues in climate change. The nature of both the hypotheses used in this study was direct. The study adds to the works on the link between social media platforms, the public's perception and support of public issues in climate change. It gives experimental proof to support the hypotheses that social media platforms influence on public's perception and support of public issues. The research determines how SMP affects public attitude on climate change, a major global issue. It shows the significance of data reliability on SMP and implies that rigorous content assessment is required to prevent the dissemination of false information. The research aims to identify the association between social media platforms, the public's perception, and support of public issues. It offers an original viewpoint on how social media platforms can improve public perceptions and support of public issues in climate change.
Keywords: Social Media Platforms, Public Perception, Support of Public Issues, Climate Change

1. Introduction

Climate change is a widespread issue affecting people worldwide, recognized as a paramount global challenge and possibly the most severe (Coeckelbergh, 2021). Climate change manifests through sudden alterations in the natural environment, including storm surges, floods, landslides, and wildfires. It also involves sea level rise, temperature shifts, permafrost thawing, desertification, and changes in ocean properties (Sesana et al., 2021). "High levels of greenhouse gas emissions, primarily from fossil fuels and nonrenewable resources, drive climate change. These emissions alter the physical and chemical properties of oceans and the atmosphere" (Maulu et al., 2021).

The geographical location of Pakistan exposes it to climate change impacts, similar to several Asian countries facing challenges in "sustainable development due to resource depletion, industrialization, urbanization, and economic expansion (Chan et al., 2018)". In 2021, a World Bank Group report highlighted climate change's diverse impacts on Pakistan, affecting sectors such as agriculture, biodiversity, health, and tourism. Climate change in Pakistan is exacerbated by coal-based power generation, used vehicle imports, traditional brick kiln operations, rapid urbanization, and agricultural burning (World-Bank-Group, 2021). While natural gas and oil were major contributors to CO2 emissions, recent coal capacity additions have elevated coal and natural gas to over 90% of power sector emissions (Butt, Myllyvirta, & Dahiya, 2021). Approximately "23% of Pakistan's greenhouse gas emissions come from road transport" (Mir et al., 2022). "The brick sector, comprising around 20,000 kilns, significantly contributes to air pollution and constitutes 1.5% of Pakistan's GDP" (ICIMOD, 2021). Climate change remains a persistent issue globally, affecting Pakistan and nearly every country on the planet.

Public opinions on climate change are molded by diverse factors, including scientific knowledge, media portrayal, personal experiences, political leanings, and cultural values (London, 2021). A comprehensive survey by the UNDP and the "University of Oxford" across 50 countries revealed a consensus labelling climate change as a global emergency. Most respondents said they were in favour of a wide range of measures to deal with this issue (UNDP, 2021). "International public opinions of climate change" were compared by the "Yale Project on Climate Change Communication". Regarding understanding, concern, and support for climate action, research revealed both significant national variances and commonalities (Leiserowitz, 2007). The IMF emphasizes that climate initiatives, such as carbon taxes and green spending, are typically supported by the public. On the other hand, there is a simultaneous need for policymakers to be fair, transparent, and accountable "(Dabla-Norris et al., 2023)". Public perceptions of climate change are greatly influenced by feelings, images, and values. Natural calamities and melting glaciers frequently dominate mental pictures, despite low levels of worry and awareness (Leiserowitz, 2006).

It is recommended that policymakers assess the costs and marginal societal benefits of reducing emissions. It is emphasized that current government policies are ineffectual and inefficient (Miron & Soares, 2021). Literature highlights the effectiveness of a worldwide carbon price as a weapon for mitigating climate change since it is widely acknowledged to be an efficient one. An evaluation of empirical data is conducted, and recommendations are made for improving public acceptability (Carattini, Kallbekken, & Orlov, 2019). The dynamics of a worldwide change from "fossil fuels to renewable energy sources" involve drivers, obstacles, and the characters of different players like governments, businesses, civil society, and international organizations (Aklin & Urpelainen, 2018). The impact of petroleum-based firms, power companies, and environmental organizations on the development of energy efficiency campaigns, renewable energy requirements, and carbon pricing plans is examined (Stokes, 2020). Multicultural systems of governance include several authorities operating at different sizes and are characterized as complex adaptive systems. In facing environmental concerns, such as climate change, they promote creativity, variety, learning, and adaptation (Carattini, Kallbekken, & Orlov, 2019).

Comparative research seeks to investigate how conceptual journalism—which incorporates context, appraisal, and opinion in addition to statistical presentation—shapes the press's reporting of environmental issues in European countries (Brüggemann & Engesser, 2017). Different social media platforms have different approaches to producing, sharing, and utilizing information on climate change. Public utilization of social media for mobilizing, conversation, and information around issues related to climate change "(Pearce et al., 2019)".

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The majority of the climate change-related Twitter discussions concentrate on social and scientific matters. Primary sources include conventional media and environmental organizations. Users' prior beliefs are reflected in tweets, which are often neutral or favourable (Veltri & Atanasova, 2017).

Several country characteristics influencing climate change mitigation include sensitivity, emissions intensity, and socioeconomic level. Personal traits are also important, including gender, age, education level, and political leanings. The effectiveness of policies varies by their framing and design, revenue utilization, distributional impact, and co-benefits (Dabla-Norris et al., 2023). Studies are absent on how identities, emotions, and values shape public perceptions of climate change policies. Social media acts as a mediator in this case (Hagen, 2015). This investigation talks to the subsequent research questions:

RQ1. Are social media platforms related to public perception of climate change?

RQ2. Are social media platforms related to support of public issues in climate change?

The current study aims to investigate how social media platforms affect public opinion or perception and support for public issues related to climate change.

2. Theory and Hypotheses

2.1. Agenda-Setting Theory (AST)

The AST explains via to see how the media affects public opinion and legislative choices. It was initially introduced by McCombs and Shaw (1972). The theory claims that by bringing specific problems to the public's notice, the media influences the public's opinions. The agenda-setting theory claims that rather than simply relaying reality, media frames and affects it to fit its purposes and interests. When the subject garners greater media coverage, the public views it as more significant and pertinent. These suppositions are essential to agenda-setting theory, claims by Craig (2016). Social media clients have access to a wide variety of content that they can create, share, and read. In addition, they promote user interaction, which influences behaviors and views (Vargo, Guo, & Amazeen, 2018). Some research investigations have found a strong correlation and level of consistency between the agendas of traditional and social media, suggesting that social media platforms often replicate and magnify the topics and issues covered by traditional media (Russell Neuman et al., 2014). Because social media and traditional media have distinct and independent agendas, it is common for social media platforms to offer a range of opinions on certain issues and topics (Meraz & Papacharissi, 2013). Some variables, including media type, genre, problem nature, importance, public attention, and the degree of media rivalry and interdependence, influence how closely conventional and social media agendas overlap (Guo et al., 2015).

2.2. Social Media Platform and Public Perception

Regression analysis at several levels is applied at the individual, national, and local levels to examine the relationship between access to the internet, social media-mediated news consumption, and the perceived effectiveness of climate change initiatives in Europe. Social media news that is depressing or unpleasant might undermine people's confidence in their ability to fight climate change (Tuitjer & Dirksmeier, 2021). Social media serves a dual role in climate change discourse. While it can disseminate positive public health messages, as seen in the analysis of @realdonaldtrump and COVID-19, it also poses a risk as a potential source of misinformation and confusion (Fuentes & Peterson, 2021). Analyzing online social networks post-disaster, such as the 2011 Tohoku earthquake and tsunami, revealed that these networks are more diverse, decentralized, and resilient compared to offline networks. They play crucial roles in information sharing, emotional support, and collective action (Kim & Hastak, 2018). Exploring the influence of experience to diverse and compatible perspectives on social media on Taiwanese internet users' online political participation suggests that such exposure stimulates political interest, awareness, and efficacy (Kim & Chen, 2016). Examining the affiliation between social media usage, network diversity, and different opinions among Korean internet users indicates a helpful link between social media use and network range, revealing users to a wider range of perceptions (Lee et al., 2014).

H1: There is a positive and significant relationship between social media platforms and public perception.

2.3. Social Media Platform and Support of Policy Issues

Social media exerts a positive and noteworthy influence on political engagement, an impact moderated by gender. Specifically, gender serves as a positive moderator for the link between the frequency of social media use and political participation among young individuals. This implies that increased social media usage heightens the likelihood of political involvement, with a more pronounced effect observed among females than males (Alodat, Al-Qora'n, & Abu Hamoud, 2023). While social media offers avenues for information exchange, mobilization, expression, and deliberation, it also presents challenges to the quality, diversity, and credibility of political communication. This research, encompassing a meta-analysis, reveals that 82% of the examined factors demonstrate a favourable association between social media use and various forms of civic or political engagement "(Boulianne, 2015)". Examining political discourse on Twitter among German and Italian users using surveys and Twitter data, it was found that Twitter users are exposed to a more diverse range of political perspectives compared to non-users (Vaccari et al., 2016). An analysis of campaign communication, network interaction, and "political participation on Twitter during the 2012 U.S. presidential election, utilizing content and network analysis, revealed that Twitter users actively produce and share a diverse array of political content". Moreover, users engage in both positive and negative interactions with fellow users (Bode & Dalrymple, 2016).

H2: There is a positive and significant relationship between social media platforms and support of public issues.

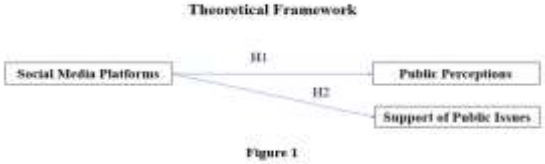

Figure 1

3. Research Methodology

The investigation builds on existing theories and literature to establish hypothetical connections among variables of interest. These theoretical links undergo testing using data gathered from participants. Consequently, opting for a quantitative research

approach aligns with the study's objectives "(Saunders, 2009). Additionally, as the aim is to generalize findings, deduction proves to be a suitable technique in this context (Saunders, 2009). Selecting a quantitative approach is also impacted by the main danger of survey questionnaires possibly not being returned. Conversely, qualitative investigations could find it difficult to draw significant conclusions from the data at hand (Blumberg, 2014).

3.1. Measures

Eleven question items on "social media engagement were adopted (Ni et al., 2020)". There are three dimensions as follows "affective engagement, behavioural engagement and cognitive engagement". The "*affective engagement"* dimension has four items one of the items was "I feel bored when I can't use social media." The a-value of this dimension was 0.804. The "*behavioural engagement"* dimension also has four items, one of the items was "using social media is my daily habit". The a-value of this dimension was 0.798. The third dimension of this scale "*cognitive engagement"* has three items, one item was "get fulfilled from the attention and comments of others on social media". The a-value of this item was 0.709. The most common Likert scale, ranges from 1 to 5, with 5 denoting strongly agree on the right-hand side and 1 denoting strongly disagree on the left-hand side. This scale is developed by (Ni et al., 2020).

The scale of *public perception* was adopted by (Yu et al., 2013). Seven items have "integrated concern about climate change". Their alpha value of 0.77. The scale uses a 5-point Likert scale.

The scale of *support of public issues* was adopted by (Taddicken, Hoppe, & Reif, 2018). They have developed the scale. The dimension of *basic knowledge* has six items "burning oil, among other things, produces CO2", and their a-value is 0.47. In this research used a five-point Likert scale.

3.2. Public Policy Relevance

(i) Examine the public's views concerning climate change, along with Pakistan's social media infrastructure and usage behaviours, and then compare them with the perspectives of several other countries or areas. This might render Pakistan's potential and limitations for collaborating in and reporting adequately in its struggle towards climate change transparent. Investigate how Pakistani society considers social media behaviour, climate change, and the state of the nation at the moment, and then compare its views to those of people in other nations or areas. This can potentially shed light on the potential of Pakistan and its constraints when it concerns contributing to and researching climate change.

(ii) Consider the features and processes that lessen the relationship between social media platforms and public awareness and support of Pakistan's climate change problems and steps. This will give Pakistan with evidence and framework it needs to formulate and roll out more successful climate change measures and initiatives.

(iii) Develop and evaluate novel, participatory methods and assets to use social media platforms for public education on climate change-related issues and projects in Pakistan, as well as to increase general knowledge, understanding, and engagement. This can offer workable and realistic ways to enhance Pakistan's performance and governance around climate change.

3.3. Timeline

In the *first phase* contact to colleges and universities focal persons. This phase consists of 3 months. In the *second phase*, provide the resources to speakers. This phase consists of 1 month. In the *third phase*, give awareness lectures to people. This phase consists of 3 months. In the *fourth phase*, give the questionnaires related to awareness and take the feedback from the lecture, this phase consists of 2 months. In the *fifth phase*, there would-be proposed the policies based on the collection of data and previous studies. This phase consists of 3 months.

3.4. Data Collection Procedures

The data collection for this study was collected from government and private colleges and university students in Lahore. The students were graduated level of different disciplines. The sample size is unknown in the educational institution then used the non-probability convenience sampling. When respondents in the research who are eager to be involved or who fit certain realistic requirements—like being simple to reach, located closest, or available during a certain time—are introduced to the population being studied (Dornyei, 2007). The students are the unit of analysis in this research (Hopkins, 1982). 450 Online self-administered questionnaires were distributed and received only 210 questionnaires. After receiving 210 questionnaires, some respondents partially respond to the questionnaire. After the screening of the questionnaire, the remaining 185 questionnaires were appropriate for data analysis. 25 questionnaires were discarded because not fully completed. The surveys were provided to all educational institutions, regardless of gender, and age, in Lahore. Table 1 provides respondents' demographic information.

Table 1: Demographics Variables

Variables	Category	Frequency	Percentage
Gender	Female	85	46.0%
	Male	100	54.0%
Age	25-35	50	27.0%
	36-45	100	54.0%
	46-55	35	19.0%
Student of which class			
The area where the institute is located			

3.5. Treatment of Missing Values

Missing data is an undeniable issue in model examinations by Little (1988) p. 287. Research in the social sciences has confronted challenges in managing missing data (Rezaei et al., 2016). According to Rezaei and Ghodsi (2014) imputation has been primarily important for experts among different methods to determine the concern of missing values. "imputation methodology by Rubin (1987)" is a re-enactment strategy that exchanges each missing datum with a collection of complete data greater than one possible value (Schafer & Olsen, 1998). The review utilized nearly Little's assumption augmentation calculation in SPSS for the "imputation" of missing values.

3.6. Common Method Biased (CMB)

This study found a way, a couple of ways to control the common method bias issues. *Firstly*, we guaranteed secrecy to the respondents and insignificance too. *Secondly*, we additionally randomize the question items in the survey and make it impossible

for the respondent to guess the variables whether dependent and independent or other variables "(Podsakoff et al., 2003)". The review suggests that CMB could be measured with the full collinearity test of SEM. Using the VIF resulting from a full collinearity test, the current study dealt with common method bias using this real-time approach (Kock, 2015). A VIF higher than 3.3 Hair et al. (2017) demonstrates that the model might be disgusting by the CMV. Thus, accepting the potential gains of VIFs with a "full collinearity test" inferior to 3.3, the model could be viewed as liberated from CMV. The flow research showed that the VIF value is under 3.3, which makes sense because there is no CMV in the data. As an effect, the current research found that CMB was not a problem in Table 2.

The nonresponse bias is a real and noteworthy modification between respondents to a questionnaire and those who were not concerned with the features of the study's attention (Lewis, Hardy, & Snaith, 2013). The exploration used wave assessment to assess the nonresponse bias. Responses before for instance around the start of the information assortment process, were named the "early respondents" while the responses close to the completion of the data collection process were named the "late respondents". Through a free example t-test, we initiate no huge alterations between the "early respondents" and "late respondents" proclaiming the obstacle of nonresponse liking.

4. Results

4.1. Structural Equation Modelling (SEM)

The proposed model's parametric parts (measurement model) and hypotheses were analysed using the PLS-SEM in this study. A two-stage technique for model assessment, estimated model assessment followed by SEM, was also proposed by Chin (2009). The exploration made sense of the PLS-SEM strategy considering different rationales; *first*, the PLS-SEM has flexibility to the extent that test sample size is essential and data normality. *Second*, smart-PLS was utilized for information investigation as it is considered a famous and high-level assessment method (Ali et al., 2018). *Third*, the PLS computation followed by the "bootstrapping method" was used to choose factor loadings, separate immense levels and, path coefficients. *Last*, PLS-SEM has been suggested as a higher inspection method for SEM (Nitzl, Roldan, & Cepeda, 2016).

4.2. Measurement Model

"Assessment properties of the proposed model like convergent validity (CV), internal reliability, and discriminant validity (DV)" and regularly analysed before testing the essential relationship of factors. We assessed internal consistency using a "composite reliability (CR) score as CR" is tolerably an unrivalled extent of internal consistency when diverged from "Cronbach's alpha (Hair et al., 2017)". A score of 0.60 on CR is considered accepted for examinations of an examining nature "(Avkiran, 2018)". Social media platforms have a CR of 0.83, a public perception CR of 0.79, and support of public issues CR of 0.75, in this investigation. As an outcome, the existing research's internal consistency and reliability were all good at this stage.

"Hair et al. (2017) explained that CV is the extent to which a measure correlates positively with alternative measures of the same construct", (p. 112)". Seeing the external loading of every item of a certain variable and working out the AVE are the most proposed ways to deal with choosing a CV (Hair Jr et al., 2014). An external loading values the more noticeable representativeness of a question item for the "connected variable (Memon et al., 2017)". In existing research, the external factor loading went from "0.70 to 0.86" for social media platforms, "0.77 to 0.88" for public perception, and "0.65 to 0.86" for SPI. Likewise, all factors showed an accepted "AVE score": social media platform (0.65), public perception (0.69), and SPI (0.62).

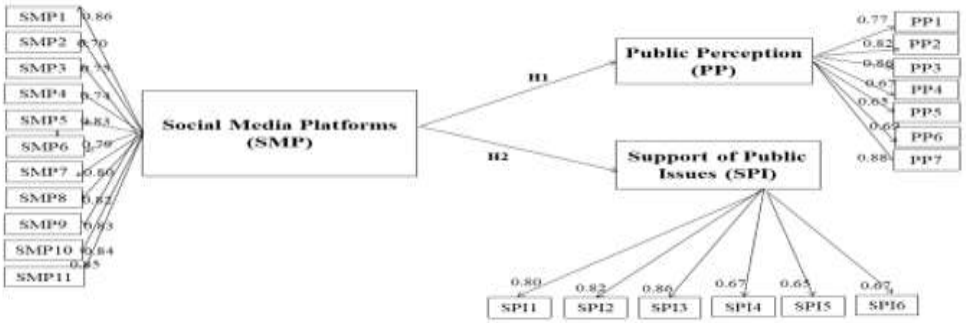

Figure 2 Measurement Model

Table 2: Measurement Model

Variables & Constructs	Loading	VIF	a-value	AVE	CR
Social Media Platforms (SMP)			0.84	0.65	0.83
SMP1	0.86	2.00			
SMP2	0.70	1.80			
SMP3	0.75	2.58			
SMP4	0.74	3.02			
SMP5	0.83	3.01			
SMP6	0.79	2.99			
SMP7	0.80	2.67			
SMP8	0.82	2.66			
SMP9	0.83	2.60			
SMP10	0.84	2.63			
SMP11	0.85	2.72			
Public Perception (PP)			0.86	0.69	0.79
PP1	0.77	1.55			
PP2	0.82	1.76			
PP3	0.86	2.18			
PP4	0.67	1.62			
PP5	0.65	1.65			
PP6	0.69	2.25			
PP7	0.88	2.54			
Support of Public Issues (SPI)			0.76	0.80	0.75
SPI1	0.80	1.55			
SPI2	0.82	1.76			
SPI3	0.86	2.18			
SPI4	0.67	1.62			
SPI5	0.65	1.65			
SPI6	0.67	2.25			

"According to Hair Jr et al. (2014), DV is the extent to which a construct is truly distinct from other constructs by empirical standards (p. 104)". The HTMT technique was utilized to assess DV by Henseler, Ringle and Sarstedt (2015) and "Fornell-Larker's system". There is a slight assortment in as far as possible values of HTMT. "According to Clark and Watson (2016) it shouldn't "cross the 0.85 threshold value; regardless, (Gold, Malhotra, & Segars, 2001) acknowledged that a 0.90 score for DV" is similarly palatable. Results showed that DV for the examination build was undeniably settled at "HTMT 0.85 level" - in this way, approving that every variable in the model is assessing a remarkable thought. In addition, the DV was settled using Fornell-Larker's standard.

Table 3: Discriminant Validity of Variables

Construct & Items	SMP	PP	SPI
HTMT Ratio			
SMP	0.176		
PP	0.346	0.844	
SPI	0.593	0.300	0.794
Fornell-Larker's Method			
SMP			
PP	0.37		
SPI	0.29	0.83	

4.3. Structural Equation Modelling (Hypotheses Testing)

The research applied a bootstrapping strategy with "5,000 resamples to study the significance of our projected model (Hair et al., 2017)". H1 states that social media platforms have positive and significant effects on public perception. The b-value of 0.35 demonstrates that a one-unit expansion in SPI is related to a 0.35-unit expansion in PP. At a 0.05 significance level, "the effect is statistically significant because the t-value of 3.00 is greater than the threshold of 1.96" for a two-tailed test. The R2 of 0.16 demonstrates that SMP makes sense for 16% of the variety in PP. Therefore, H1 is supported by the data.

H2 states that social media platforms directly influence support of public issues. A b-value of 0.41 indicates that an average 0.41-unit increase in SMP is correlated with an increase of one unit in SPI. The impact is huge because the t-value of 4.10 is more prominent than the basic value of 1.96 for a two-tailed test at a 0.05 importance level. The R2 of 0.23 demonstrates that PP makes sense of 23% of the variety in SPI. Subsequently, H2 is supported by the data.

Table 4: Path Analysis

Hypotheses	Path	β	t-value	R2	Decision
H1	SMP → PP	0.35	3.00*	0.16	Supported
H2	SMP → SPI	0.41	4.10*	0.23	Supported

Note: SMP, social media platforms; PP, public perception, and SPI, support of public issues, *p < 0.05

Result of Structure Model Assessment

5. Discussion

Today, climate change is a very interesting and burning issue. Therefore, the public's perception of climate change plays a crucial role in determining their behaviour, and how they perform. This research focuses on two hypotheses. The H1 hypothesis states that social media platforms have a positive and significant effect on public perception. The H1 hypotheses provide the literature support with previous studies (Aklin & Urpelainen, 2018; Fuentes & Peterson, 2021; Kim & Hastak, 2018; Kim & Chen, 2016; Tuitjer & Dirksmeier, 2021). The hypothesis was strong because the statistical significance level had been under 0.05. Social media platforms can influence how the general public experiences and views a range of concerns. They also stressed how essential it is to take into account the accuracy of this data and the possibility of inaccurate information on such websites or social media platforms. The research investigation focuses on how crucial social media is to contemporary interpersonal relationships and how it can shape people's opinions and actions (Bakombo, 2023).

The H2 Hypothesis proposes that social media platforms have a positive and large impact on support of public issues. The H2 hypothesis has been supported by previous studies (Alodat, Al-Qora'n, & Abu Hamoud, 2023; Bode & Dalrymple, 2016; Vaccari et al., 2016). The hypothesis was significant since the statistical significance level was under the threshold of 0.05. Social media platforms can affect public issue support in many kinds of ways, influencing anything from social customs to human behaviour. a solid understanding of how public perception and behaviour are shaped by social media (Winstone, 2021).

5.1. Theoretical, Practical and Societal Contribution

The study tested a proposed framework using bootstrapping, a dependable quantitative approach, which increased the framework's predictive power. The study supports the premise that social media platforms have a significant impact on public opinion and support for public problems by enhancing H1 and H2, adding to the body of research on the link between SMP and public perception.

The SMP may be utilized to change public opinion. Legislators and pressure groups can utilize the information collected to create strategies for effective messaging and public participation. The results demonstrate that, for initiatives aimed at boosting support for public concerns, a one-unit rise in SMP usage interacts with a 0.41-unit jump in the SPI. This can influence the kind and intensity of social media platforms.

The study demonstrates how SMP affects public opinion on climate change, a major global problem. It highlights the significance of data trustworthiness on SMP and implies that rigorous content assessment is required to prevent the dissemination of false information. The findings demonstrate how SMP may affect societal norms and individual behaviour, suggesting that SMP is a powerful tool that can garner support from the general public and perhaps cause a social revolution.

5.2. Limitations

It is important to be aware of certain restrictions that can affect how the results are interpreted. One such limitation is the use of bootstrapping with a set amount of resamples. Despite its reliability, this approach might not fully capture the complexity of social views and actions. Additionally, the study may have missed small, challenging-to-quantify aspects of social media interactions, such as the influence of non-textual content like photos and videos or the emotional resonance of messages, due to its restricted focus on specific hypotheses and quantitative approach. It's possible that the study's sample and conditions limited the study's applicability. Because social media users are so diverse and dynamic, it's possible that findings from one research won't apply to other platforms, demographic groupings, or places.

5.3. Future Direction

Firstly, the research work would be done on these ideas e.g., comparative analysis, the role of media, individual versus collective actions, educational awareness, and subnational differences (Liu, 2023). *Secondly*, the other study also has recommendations on these concepts, information quality improvement, risk perception management, and behaviour intention (Liu, 2022). *Thirdly*, future direction on the ideas on, diverse social media platforms, misinformation dynamics, public health communication strategies, behaviour change, crisis management, and global perspective (Fuentes & Peterson, 2021).

5.4. Conclusion

The study concludes with strong evidence that social media platforms (SMP) have a major impact on the public's perception (PP) and support for public issues (SPI). The outcomes highlight how SMP can influence public opinion and how these platforms can be used to engage the public and promote causes. Such information can be used by organizations and legislators to develop persuasive communication plans that connect with the public and inspire support for important causes. The study adds a great deal to the body of literature already in existence by providing a sophisticated understanding of the relationships between social media use and public debate. The study supports the idea that social media is a catalyst for change, able to mobilize public opinion and action, rather than just a medium for exchanging information, by confirming the stated hypotheses.

5.5. Policy Analysis

A. Current social media platforms shape the public perception and support of policy issues and initiatives in climate change.

1. Assess the effectiveness of existing policies.
2. Identify gaps and areas for improvement.

B. Global Policy Best Practices

1. Highlight successful policies from other countries.
2. Extract lessons applicable to the Pakistani context.

5.6. Recommended Policies for Climate Change

- **i.** Enhance the capacity and *awareness* of stakeholders, such as government officials, civil society, media, and academia, on climate change issues and solutions.
- **ii.** *Monitor and evaluate* the progress and impact of climate action, by establishing and implementing a robust and transparent monitoring, reporting, and verification (MRV) system, by using relevant indicators and metrics, and by conducting regular reviews and assessments.
- **iii.** Enhance the *public transport* system, and encourage the use of low-emission and electric vehicles, to reduce the dependence on private cars and motorcycles, which contribute to traffic congestion, air pollution, and emissions.
- **iv.** Implement a national *rangeland policy*, which aims to conserve and manage the rangeland resources and ecosystems of Pakistan, by promoting sustainable rangeland use, enhancing the livelihoods of rangeland-dependent communities, and reducing land degradation and desertification caused by overgrazing.
- **v.** Implement *Euro VI emission standards* for all vehicles and fuels by 2025.
- **vi.** *Phase out coal-fired power* "plants and replace them with renewable energy sources, such as solar, wind, hydro, and biomass".
- **vii.** *Introduce "a carbon tax* or cap-and-trade system" to incentivize low-carbon development and discourage fossil fuel consumption.
- **viii.** Promote *green and energy-efficient buildings and infrastructure*, such as mass transit, smart grids, and waste management.
- **ix.** Establish a national forest *conservation and restoration fund* to support the Billion Tree Tsunami and other afforestation and reforestation initiatives.
- **x.** Develop and implement *a national adaptation plan* to enhance the resilience of vulnerable sectors and communities to climate change impacts, such as "droughts, floods, heat waves, and sea level rise".
- **xi.** Strengthen the *institutional* and *legal framework* for climate change governance, coordination, and monitoring at the federal, provincial and local levels.
- **xii.** Increase the investment and innovation in *climate-friendly technologies* and practices, such as electric vehicles, biogas, and climate-smart agriculture.
- **xiii.** Expand the *cooperation and participation* in regional and international forums and initiatives on climate change, such as the Paris Agreement, the Green Climate Fund, and the South Asian Association for Regional Cooperation.

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