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Fridays for Future and Extinction Rebellion. Nurturing the Green Youth Revolution in the Digital Age.

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Abstract

In response to the looming environmental crises, Extinction Rebellion (XR) and Fridays for Future (FFF) have emerged as influential decentralized youth movements. XR, comprising a global force with over 160,000 activists, advocates for Non-Violent Direct Action to urgently address the pressing issues of the Climate and Ecological Emergency. On the other hand, Fridays for Future, initiated by the notable Greta Thunberg, transitioned from solitary protests to a global movement through effective social media propagation, igniting a worldwide school strike for climate that aligns with the goals of the Paris Agreement.

These movements strategically harness the power of digital communication platforms, emphasizing the intersection of environmental activism and the digital age. They amplify their reach, engaging diverse participants in mobilizing grassroots activism to collectively respond to the environmental crisis. This research undertaking aims to conduct a comprehensive comparative analysis of their strategies, shedding light on their impact on policy changes, public perception, and global collaboration efforts. By evaluating their influence in empowering and engaging youth in environmental activism, the study seeks to uncover the challenges and opportunities faced by these movements, contributing valuable insights into the evolving landscape of environmental activism within the contemporary digital era.

Keywords: Environmental activism. Youth movements. Extinction Rebellion. Fridays for Future. Paris Agreement. Climate Change. Ecological catastrophe. Non-Violent Direct Action. Social Media. Digital Communication.

Resumen

En respuesta a la inminente crisis medioambiental, Extinction Rebellion (XR) y Fridays for Future (FFF) han surgido como influyentes movimientos juveniles descentralizados. XR, que cuenta con una fuerza mundial de más de 160.000 activistas, aboga por la Acción Directa No Violenta para abordar urgentemente los acuciantes problemas de la Emergencia Climática y Ecológica. Por otro lado, *Fridays for Future*, iniciado por Greta Thunberg, pasó de ser una protesta solitaria para convertirse en un movimiento mundial gracias a una eficaz propagación en las redes sociales, encendiendo una huelga escolar mundial por el clima que se alinea con los objetivos del Acuerdo de París.

Estos movimientos aprovechan estratégicamente el poder de las plataformas digitales de comunicación, haciendo hincapié en la intersección entre el activismo medioambiental y la era digital. Amplifican su alcance, involucrando a diversos participantes en la movilización del activismo de base para responder colectivamente a la crisis medioambiental. Esta investigación pretende realizar un análisis comparativo exhaustivo de sus estrategias, arrojando luz sobre su impacto en los cambios políticos, la percepción pública y los esfuerzos de colaboración global. Al evaluar su influencia en el empoderamiento y la participación de los jóvenes en el activismo medioambiental, el estudio pretende desvelar los retos y las oportunidades a los que se enfrentan estos movimientos, aportando valiosas ideas sobre la evolución del panorama del activismo medioambiental en la era digital contemporánea.

Palabras clave: Activismo medioambiental. Movimientos juveniles. Rebelión contra la extinción. Viernes por el Futuro. Acuerdo de París. Cambio climático. Catástrofe ecológica. Acción Directa No Violenta. Medios de comunicación social. Comunicación digital.

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Introduction

Over the past few decades, life-threatening environmental concerns have surfaced in the developing world (Brundtland Report, 1987). We are currently experiencing the sixth mass extinction, and we will face catastrophe if we do not do anything to change. And at the end of the day, there is no planet B. We are losing our biodiversity, seas are being poisoned, flooding and desertification will generate mass migration routes, and the air is so toxic that people are currently dying due to illnesses related to the increasing amount of pollution. The breakdown of our climate has already begun. As a result, our future is under severe threat (Shiva, 2019).

In an era marked by escalating environmental crises, Extinction Rebellion (XR) and Fridays for Future (FFF) have emerged as influential decentralized youth ecological movements, playing a pivotal role in the global response to the impending ecological catastrophe. The urgency of addressing climate change and environmental degradation is underscored by the current state of our planet, facing the unprecedented challenge of the sixth mass extinction and the perilous breakdown of our climate. There is no Planet B; our future is at stake. This research explores how both movements share a commitment to Non-Violent Direct Action (NVDA) and use social media platforms to disseminate their messages worldwide.

On one hand, Extinction Rebellion (XR), a global force with over 160,000 activists, demands truth, immediate action, and transcending political boundaries. Employing Non-Violent Direct Action (NVDA), it calls for urgent measures to address the Climate and Ecological Emergency. On the other hand, Fridays for Future (FFF), initiated by Swedish activist Greta Thunberg[1], burgeoned from solitary protests to a global movement through efficient social media propagation. The call for a safe climate pathway under 2°C, aligned with the Paris Agreement, sparked a worldwide school strike for climate. Their call for action sparked an international awakening, with students and activists uniting around the globe to protest outside their local parliaments and city halls (Fridays for Future, 2024).

[1] **Greta Thunberg**, climate activist born in Stockholm in 2003, discovered climate change at age eight. Diagnosed with Asperger's syndrome around 11 or 12, she faced depression but found solace in activism. At 15, Greta initiated the "School Strike for Climate," inspiring the global Fridays For Future (FFF) movement. Taking a year off from school, she delivered impassioned speeches to world leaders.

Both movements strategically leverage online platforms, emphasizing the intersection of environmental activism and digital communication within contemporary global discourse. They amplify their reach, mobilize grassroots activism, and engage diverse participants in responding collectively to the environmental crisis. In this context, the adaptation to digital methods has reshaped how the environmental activism functions, blurring the lines between local and global and physical and digital spaces. As a result, these movements exemplify a new form of activism – one that is decentralized, globally interconnected and capable of mobilizing large segments of the population through digital means. This digital age has provided these movements with tools to create more inclusive, far-reaching, and dynamically responsible activism strategies which are crucial in the global environment.

This research seeks to delve into the dynamics, strategies and impacts of both with a particular focus on their use of digital platforms for mobilization and advocacy. By exploring how these movements use digital communication to influence public perception, drive political change and foster global participation or collaboration, this study aims to contribute valuable insights into the evolving landscape of digital activism.

Ultimately, these contribute significantly to the amplification of the global environmental discourse, urging urgent and effective measures to mitigate climate change and safeguard the planet's ecological equilibrium. In essence, Extinction Rebellion (XR) as well as Fridays for Future (FFF) contribute to the amplification of the global environmental discourse and the promotion of urgent, effective measures to mitigate climate change and protect the planet's ecological equilibrium.

Investigation purposes and previous questions

This research aims to explore and elucidate the dynamics of the two prominent environmental movements, Extinction Rebellion (XR) and Fridays for Future (FFF), within the contemporary digital landscape. Moreover, the goal of this study is to conduct a comprehensive comparative analysis of both groups, focusing on their strategies to promote environmental activism. Intending to uncover how these movements utilize digital communication platforms to mobilize and empower participants globally.

Therefore, the primary goal is to explore the effectiveness of these platforms in spreading environmental advocacy across diverse demographics and geographies. By understanding the operational dynamics and communication strategies of XR and FFF, this research will contribute to the broader knowledge of digital activism's impact on global environmental movements. Another fundamental objective is to assess the influence of these movements on shaping environmental policies and altering public perceptions about sustainability and ecological responsibility. This goal will involve analyzing the extent to which XR and FFF have managed to translate grassroots activism into substantive policy changes and shifts in public attitudes.

Specific Goals of the Investigation

The first specific goal is to delineate and compare the methods employed by XR and FFF in their environmental campaigns. This strategic analysis includes not only scrutinizing the organizational structures, but also the event planning as well as the narratives they promote to gauge their success and public reception.

Then, a critical focus will be placed on the specific role that social media platforms like Twitter, Facebook, and Instagram play in the operations of XR and FFF. This aims to evaluate how these tools enhance or hinder the movements' ability to reach a wide audience and to foster a global community of activists.

This research will specifically identify and analyze the policy changes prompted by the activism of XR and FFF. By studying various case studies where activism has led to legislative or corporate policy shifts, the investigation will provide insights into the movements' real-world impact.

Understanding how XR and FFF engage with and empower the youth will be another crucial goal. This Youth Engagement and Empowerment includes examining the strategies for youth involvement, the effectiveness of educational programs, and the sustainability of youth engagement over time.

Finally, the study aims to identify the main challenges and opportunities faced by XR and FFF. This will involve exploring the limitations imposed by digital platforms, potential backlash from political entities, and the evolving landscape of digital activism.

Previous Questions

Prior to delving into the comparative analysis and empirical data collection, it is relevant to address a series of foundational questions that will shape the research trajectory. These questions are designed not only to guide the investigation but also to challenge existing assumptions about digital activism and its efficacy in environmental advocacy.

1. How do Extinction Rebellion and Fridays for Future differ in their use of digital tools and platforms for activism?
2. What role has social media played in amplifying the reach and influence of these movements on a global scale?
3. To what extent have XR and FFF influenced environmental policies and shifted public opinions towards sustainability and conservation issues?
4. In what ways do these movements engage and empower youth, and how effective are these strategies in sustaining long-term activism?
5. What are the main challenges and opportunities that XR and FFF face in the evolving digital era, and how might these impact future directions of environmental activism?

By addressing these questions, the research will provide insightful contributions to the understanding of digital activism's role in environmental advocacy, offering implications for both theory and practical application in policy formulation, movement strategy, and broader societal engagement.

State of Play

In undertaking a comprehensive exploration of the environmental movements Extinction Rebellion (XR) and Fridays for Future (FFF), it is crucial to establish a robust intellectual foundation through a detailed review of existing literature and digital resources. This "State of Play" section aims to delineate the array of scholarly works, books, digital content, and social media analyses that form the backbone of our understanding of these movements. By critically engaging with these sources, this investigation seeks to draw upon a diverse range of

perspectives and insights that illuminate the strategies, impacts, and challenges faced by XR and FFF in their quest to galvanize public and political action for environmental causes.

The literature spans a broad spectrum from seminal books that chart the historical and ideological trajectories of environmental activism, to contemporary academic studies that scrutinize the dynamics of social movements in the digital age. Additionally, a wealth of information is obtained from web-based resources including official reports from the movements themselves, which provide an insider's view on their operational strategies and philosophical underpinnings, as well as third-party analyses that offer critical evaluations of their actions and effectiveness.

Moreover, the role of social media as a tool for mobilization and engagement is a pivotal aspect of this study. As such, extensive reference to specific case studies and empirical research that assess the digital footprint of these movements helps in understanding their ability to leverage online platforms for global outreach and influence. Through this multi-faceted bibliographic compilation, the "State of Play" not only equips the research with foundational knowledge but also sets the stage for a nuanced inquiry into how XR and FFF have shaped and been shaped by the digital landscape in their innovative approaches to environmental activism.

Methodology

The methodology used in this research is designed to systematically investigate and compare the environmental activism strategies of two prominent youth movements, Fridays for Future (FFF) and Extinction Rebellion (XR). Central to this study is an examination of their digital communication practices, an area that has generated relevant shifts in public engagement and policy advocacy. To achieve the goals of this investigation and answer to the purposed questions, the research has adopted a mixed-methods approach, which integrates both qualitative and quantitative research techniques.

Data Collection

Primary data will be not only collected through a survey, which will be distributed to a group of participants both within and outside FFF and XR, but also document analysis. Which will be characterized for a critical examination of internal documents, action plans and public communications issued by both organizations. Therefore, whereas the survey is designed to

capture perceptions, personal experiences and the effectiveness of the movements' strategies, the document analysis will help in understanding the formal and informal communication channels and messages that these movements propagate.

Additionally, secondary data will be extracted from official statements, social media content, and relevant literature. Firstly, the official Statements and Reports, published by the movements provide insights to the impact and current strategies. Secondly, the comprehensive review of the content posted in social media such as Instagram or Twitter, will quantify the engagement metrics and decode their strategies employed. Finally, by revising relevant literature related with digital activism and environmental movements there will be a creation of a frame of these movements within the broader discourse of global environmental activism.

Sampling Strategy

The sampling strategy involves purposive sampling to select individuals who are actively involved in FFF and XR activities, as well as people outside the organizations who represent the public's perception and interaction with these movements. This will ensure that the data collected is representative of both internal perspectives and external viewpoints. Therefore, the survey participation will be encouraged by different Social Media channels, with a video that can be observed in the Annex 4. That will be shared not only in the author's personal social media channels, but also in the official regional accounts of both movements for getting a larger sample.

Data Analysis

This process will be conducted using both statistical methods and qualitative coding. On one hand, the statistical methods will be use with quantitative data obtained from the survey and social media analytics will be analyzed using statistical software to identify patterns, correlations, and differences between the strategies of FFF and XR.

On the other hand, the qualitative coding will include the textual data from document analyses, official communications, and open-ended survey responses will be subjected to thematic analysis using qualitative coding techniques. This will allow for the identification of key themes, symbols, and discourse strategies used by the movements.

Theoretical Framework

The theoretical framework plays a pivotal role as the intellectual cornerstone of this research, providing a lens through which the intricate phenomena surrounding decentralized youth movements can be comprehensively interpreted and understood. In the specific context of this study, which delves into the dynamics, motivations, and impact of Extinction Rebellion (XR) and Fridays for Future (FFF) amid environmental crises, a set of key theoretical perspectives guides the exploration.

These theories, including Social Movement Theory, Media Ecology Theory, Frame Analysis, Network Society Theory, Environmental Communication Theory, and Digital Activism and Online Social Movement Theory, collectively contribute to unravelling the complexities inherent in the contemporary landscape of youth-led environmental movements, particularly in the digital age.

Social Movement Theory

Following the studies of authors such as Gunderlach, Eyerman and Melucci, this theory gives a lens through which to understand the dynamics, motivations, and strategies of social movements. In this case, it especially helps in analyzing how Fridays for Future (FFF) and Extinction Rebellion (XR) have mobilized individuals globally, emphasizing the importance of collective action and social change. According to the authors, the social movements are created when social conflicts, in this case climate change could be included as a conflict against humanity, are transformed into political action. This is translated through social factors where networks, organizations, and mass media (Petterson, 1989). Playing a pivotal role in the diffusion of the ideas in this emerging social movements.

In this context, as Melucci defends in his findings, contemporary movements are unique in that they translate their actions into symbolic challenges to the dominant codes. In this context, the challenge of these movements is the form of their models of organization and solidarity, which delivers a message to the rest of society. Therefore, these social movements or collective actions can be perceived by these intellectuals as social systems. Which are not unified but are a composite action system in which widely differing means, ends and forms of solidarity and organization converge in a stable fashion (Petterson, 1989).

Media Ecology Theory

This consists of the study of the symbiotic relationship between media, technology, and society. First proposed by the Canadian philosopher Marshall McLuhan in 1964, it was formally introduced by the American author, educator and media theorist, Neil Postman in 1968. As a result, the Media Ecology Theory can illuminate how the digital age, characterized by rapid information dissemination through social media and the globalization process, has influenced the growth, reach, and impact of Youth movements such as Fridays for Future (FFF) and Extinction Rebellion (XR).

Furthermore, despite its emergence during the 60s, Media Ecology observations gained importance with the emergence of the internet (Levinson, 2001), due to its ability to create its own alternative media environment which is comparable to physical reality. This is mainly due to three main reasons. Firstly, the internet brings together all previous media, is richer and more versatile, and it enables technology-mediated communication to enlarge the proportion of human experience. Secondly, it is a fundamentally interactive medium which contributes to the expansion of ideas in a short period of time. Finally, due to its structure, it resembles human thought processes.

Consequently, as authors as Ruotsalainen and Heinonen defend, the internet has brought together the perfect ingredients to create a digital ecosystem of society. In which the simultaneous private and public nature facilitates the creation of communities around shared interests, values, and tastes. Considering that these are not limited by the physical reality or social status, instead individuals form relationships with whomever they want. As a result, the user communities help to make cultural and political discussions vivid and democratized. This causes the possibility of giving voice to everyone and create spaces where information monopolies are hard to maintain, as information flows freely between the individuals and organizations.

Network Society Theory

Developed in *The Rise of the Network Society* written in 1996 the Network Society Theory defines it as the social structure of our age, the Information Age (Castells, 2022). Providing a framework to understand the contemporary socio-economic structure shaped by the influence of information and communication technologies. Highlighting the role of digital networks in

shaping social structures. In the context of the Young-led ecologist groups, this theory is relevant as it emphasizes the role of digital networks in shaping social structures.

In addition to this, where, politics is a fundamental dimension for managing peaceful coexistence in increasingly restive societies, has been completely transformed by informational politics, and digital media politics, contributing to a major crisis of legitimacy of institutional politics, ushering in a potential crisis of traditional liberal democracy (Castells, 2018). As a result, globalization and selective territorial networking have now completed the movement, identified a long time ago, toward mega-metropolitan regions as the prevailing spatial form of the network society (Castells, 2022).

Environmental Communication Theory

Emerging in a time of accelerated urgency due to the climate crisis we are currently dealing with. Environmental communication's origin was the publication of Rachel Carson's *Silent Springs* which generated awareness in the mainstream of the interconnectedness of all life and the fragility and finiteness of Earth's biosphere (Milstein and Mocatta, 2022).

This field of study extends beyond traditional boundaries and operates as a transversal discipline, intersecting with various fields such as politics, health, media studies, and the sciences. By doing so, it provides valuable insights into how environmental issues are communicated, perceived, and ultimately addressed. The significance of environmental communication is particularly evident when considering the pressing and intricate challenges posed by climate change and environmental degradation.

In essence, environmental communication serves as a powerful tool for analyzing the communication strategies employed by diverse movements. Its scope encompasses not only the dissemination of information but also the examination of how such information is interpreted and acted upon. Given environmental issues' urgency, this interdisciplinary approach is essential for comprehensively understanding and addressing the complexities inherent in climate change and environmental crises.

Digital Activism and Online Social Movement Theory

With today's widespread Internet use and the considerable potential of technology, social movements are not only becoming more prominent but also significantly affecting greater masses (Kirik, Cetinkaya and Kursun, 2021). Thus, digital activism increases, showing that the latest social movements such as Fridays for Future (FFF) and Extinction Rebellion (XR) emerge in this virtual world. Where activist movements are conducted in the digital environment which uses social networks, blogs microblogs, and messages.

The prevalence of social media platforms, in particular, has transformed the dynamics of activism, enabling movements to rapidly disseminate information, engage supporters, and garner widespread attention. Hashtags, online petitions, and viral campaigns have become integral components of digital activism, amplifying the reach and impact of social movements.

Furthermore, the digital sphere provides a space for decentralized organizing, allowing activists to connect and coordinate efforts across geographical boundaries. The agility and accessibility of digital platforms have democratized activism, empowering individuals to contribute to social and environmental causes regardless of their physical location.

In essence, the synergy between technology and social movements in the digital age has not only elevated the visibility of these movements but has also facilitated new forms of engagement, making activism more inclusive, dynamic, and responsive to the challenges of the contemporary world. The virtual realm has become a catalyst for shaping the narratives and outcomes of social and environmental movements, reflecting the evolving landscape of 21st-century activism.

Analysis

This thesis focuses on exploring the influence and effectiveness of youth-led environmental activism movements, specifically Extinction Rebellion (XR) and Fridays for Future (FFF), within the social and political context of Spain. The research examines how these organizations utilize social media to mobilize the population, raise awareness about environmental issues, and foster political changes through their campaigns and activities. Furthermore, it investigates public perception of these initiatives through a detailed survey aimed at a broad demographic spectrum.

The analysis is divided into two main components: first, the evaluation of survey results that capture the attitudes and behaviors of participants towards environmental activism, including their level of awareness, participation in related activities, and perceptions of the effectiveness of XR and FFF. This analysis seeks not only to understand the extent of active participation in these movements but also to identify barriers and facilitators of public engagement in environmental causes.

The second component focuses on the use of social media by XR and FFF. This analysis includes identifying digital communication strategies, the frequency and type of content posted, and user interactions. Through social media analytics tools and qualitative methods, it examines how these platforms serve as crucial tools for information dissemination, event organization, and mobilization support, and how they contribute to the reach and success of these movements' campaigns.

Survey Results

The meticulously designed survey for the thesis "*Cambiando el Mundo Juntos*" was conducted to capture the nuanced public sentiments toward environmental activism in Spain, engaging a total of 368 participants. This survey aimed to probe an array of topics including demographic characteristics, awareness of environmental issues, affiliation with activist groups, and perceptions regarding the effectiveness of these groups in advocating for environmental change. The findings from the survey provide a snapshot of the current state of environmental activism among the participants, shedding light on their degree of engagement, concerns, and views on the impact of youth-led movements in tackling environmental challenges, especially climate change.

The survey structure included an initial section, referred to as Model A, which all respondents completed. This section gathered basic demographic information and general attitudes towards environmental issues. Following this, the survey branched into two distinct paths: Model B and Model C. Model B, which was completed by 36 respondents or 10% of the total sample, was specifically designed for individuals affiliated with environmental groups like Extinction Rebellion (XR) and Fridays for Future (FFF). This section aimed to delve deeper into the specific experiences and insights of activists. Conversely, Model C catered to the remaining

328 participants, accounting for 90% of the sample, who were not affiliated with any environmental organizations. This model focused on capturing the perceptions and engagement levels of the public with respect to environmental activism.

Comprehensive analysis of the survey

In the following section, we will delve into the analysis of the survey results, which aim to provide a detailed understanding of the public's perception and engagement with environmental activism. For a more comprehensive exploration of the data and additional supporting material, readers are encouraged to refer to Annex 1, which contains extended information and detailed statistical charts to complement the discussions presented in the following section.

Demographic Profile and General Attitudes

The initial segment of the survey, **Model A**, was completed by all participants and provided a foundational demographic snapshot. The gender distribution within the survey highlighted a noticeable disparity with 85% of participants identifying as female, indicating a pronounced gender skew in engagement with environmental issues. This could suggest that environmental activism is particularly resonant among women, who may perceive a greater stake in fostering sustainable practices or feel more affected by the environmental degradation of the planet. However, it also raises questions about the inclusivity and appeal of environmental movements to different genders suggesting that there might also be a social or cultural dynamics that influence this participation.

In this context, age-wise, the most represented group was young adults aged 20-29 years, making up 43% of participants, with those aged 25-29 years alone accounting for 26.2%. Moreover, this demographic profile underscores the active involvement of this age group in environmental discussions and initiatives. This might be caused due to a higher stake in long-term environmental health and more exposure to environmental education at an early stage. Their active participation also shows the generational concerns, suggesting that these movements are effectively engaging with this age group trough relevant messaging and mediums, particularly on digital platforms.

Regarding the educational background, most respondents are highly educated, with 50% having completed a university degree and another 33% holding a postgraduate qualification.

This could be related to a greater awareness of environmental issues or more opportunities to engage with complex scientific information regarding sustainability and climate change. This data may also reflect the role of educational institutions as breeding grounds for environmental advocacy and critical thinking about global issues.

In terms of occupational status, students were the largest group, comprising 42% of the sample, followed by full-time employees who accounted 32%. This could imply that environmental concerns are integrated into the life perspectives of those who are still in formative stages of their careers or academic paths, as well as those who are already contributing to the economy and may see these impacts of the environmental issues on their own workplace or industry.

Household income, the most common income bracket, reported by 28% of participants ranged from 20,200€ to 35,2000€ annually. This economic segment may have enough financial stability to engage in activism but at the same time, feel the economic pressures of environmental degradation. For instance, the constant increase in the cost of living related to resource scarcity.

Overall, these demographic insights from the survey underline the need for the environmental movements such as XR or FFF to consider these characteristics when designing outreach and engagement strategies. Tailoring communications to address the interests and needs of underrepresented groups could enhance not only the inclusivity, but also the effectiveness of these movements. Additionally, the high engagement of educated young adults and women points to potential areas for targeted advocacy and education to further empower these groups to lead and expand the influence of the environmental activism.

Insights from Environmental Activists

The second segment of the survey, or Model B focused on the experiences and insights of 36 respondents affiliated with environmental groups like Extinction Rebellion (XR) and Fridays for Future (FFF).

Among these, 44% were associated with XR, underscoring the strong influence and outreach of this specific movement within the activist community. Additionally, 31% of respondents were involved with other environmental movements, reflecting a broad spectrum of activism.

This variety on affiliation highlights the interconnected nature of these movements and the shared commitment among activists to address global environmental challenges.

A notable finding from this model is that 26.32% of these respondents acknowledged having a 'Low' or 'Very Low' level of environmental awareness before joining their respective movements, highlighting the transformative role these groups play in educating and engaging their members. This statistic underscores the significant role that organizations such as XR and FFF play in raising awareness among their members. Through an active participation in these groups, individuals not only gain a deeper understanding, but also become the advocates for changes. Enhancing their ability to mobilize broader public support for environmental action.

Insights from General Public

The last segment, or Model C captured the views of the remaining 326 participants who were not affiliated with any environmental organizations.

The survey results indicate that a substantial majority, 74%, reported high or very high awareness of environmental issues, showing effective dissemination of information about environmental challenges. However, despite this level of awareness only about 40% of this group had engaged in environmental activities. Revealing that there is a gap between awareness and active participation in this groups. Yet there remains a significant portion, 29%, who have not been actively involved. Highlighting potential areas for increasing engagement and mobilization efforts within the community.

Approximately 19% of respondents from this model held a favorable view of movements like XR and FFF, pointing to their perceived effectiveness and necessity in the environmental sector. This perception underscores the movements' effectiveness and the essential role they play in the fight against climate change. The positive regard shows their ability to impact in public opination. Suggesting that their messages, actions, and campaigns resonate well with a significant portion of the society.

Barriers to Further Engagement

The survey also identified several barriers to deeper involvement in environmental activism. The largest barrier, noted by 37.04% of respondents, was a lack of familiarity with the objectives of these movements, suggesting a need for clearer communication and outreach. Pointing a need for clearer communication and more targeted outreach from movements like XR and FFF. Calling for a need of transparency of goals and activities could help to bridge the information gap and foster greater participation.

Time constraints are another significant barrier, noted by 31.15% of participants, this barrier reflects the common challenge of balancing activism with personal and professional responsibilities. Addressing this, may involve creating more flexible ways for the individuals to contribute. Moreover, limited local opportunities were a concern for 18.52%, indicating potential areas for strategic expansion of activities to facilitate greater local involvement. Enhancing local engagement opportunities could facilitate the involvement.

The analysis of environmental awareness, perceptions and barriers paints a complex picture of public interaction with the environmental activism. While there is a high level of awareness and favorable perception of movements such as XR or FFF. There are still significant barriers that still block a deeper engagement.

Complementary Analysis

Demographic Insights and Environmental Engagement

The survey results underscore a significant female majority among the participants, which aligns with global trends showing higher female participation in environmental and social activism. The concentration of respondents in the 20-29 age bracket reflects the youth-driven nature of movements like XR and FFF, suggesting that young adults are particularly responsive to the climate crisis and motivated to seek change. Educational backgrounds with a high proportion of university and postgraduate degrees indicate that the movements attract a well-educated demographic, which might influence the complexity and depth of the discussions and strategies within these groups. This educational attainment could also contribute to the movements' ability to articulate their goals and strategies effectively to a broader audience.

Engagement Levels and Movement Affiliation

Model B reveals a robust representation of XR members within the survey, indicating strong organizational structures and outreach within this movement. The presence of participants affiliated with multiple environmental movements suggests a cross-pollination of ideas and strategies, potentially enriching the activism landscape. A significant finding across all models is the varying levels of environmental awareness before and after joining the movements. This increase in awareness highlights the critical educational role these movements play in informing and sensitizing their members and the broader public about environmental issues.

Digital Engagement and Motivational Factors

Across the board, social media stands out as a critical tool for information dissemination and engagement, underscoring its role as a primary communication channel in contemporary activism. The data suggests that digital platforms are not only instrumental in spreading awareness but are also crucial in mobilizing action and sustaining dialogue around climate issues. The motivational analysis from Model B points to environmental justice and future-oriented concerns as primary drivers of participation. This reflects a blend of ethical motivations and pragmatic responses to environmental challenges, illustrating the complex motivations behind individual participation in these movements.

Perceptions of Movement Efficacy and Barriers to Engagement

Most of the respondents across Models B and C believe in the efficacy of direct action and the need for structural reforms, which may indicate a general consensus on the strategies employed by XR and FFF. However, barriers such as lack of familiarity with the movements' objectives and perceived inadequacies in local engagement opportunities highlight critical areas for improvement.

Implications for Future Activism

The insights from the survey suggest several strategies for enhancing engagement and effectiveness of environmental movements. These include increasing educational efforts to raise awareness, expanding local engagement opportunities to include a broader demographic, and leveraging social media more effectively to not only share information but also to inspire and coordinate collective action.

Additionally, the data suggests an urgent need to address the disconnect between passive digital consumption and active participation. Enhancing narrative strategies on digital platforms, creating more inclusive and engaging content, and facilitating easier pathways to active involvement could bridge this gap.

Social Media Analysis

This comprehensive analysis of Instagram and Twitter metrics for Fridays For Future (FFF) and Extinction Rebellion (XR) provides vital insights into their social media strategies and their impacts on global audience engagement. The data reveals significant differences in how each movement leverages these platforms to advance their environmental advocacy, reflecting their unique approaches to digital activism.

Instagram

On Instagram, XR boasts a larger following and a higher post count compared to FFF. With 654,000 followers and 2,400 posts, XR's strategy appears to prioritize frequent, content-rich posts that maintain high engagement and visibility. This approach likely helps XR to stay relevant in the fast-paced environment of social media, constantly engaging with a global audience. In contrast, FFF, although having fewer followers at 447,500, demonstrates a strong engagement rate with 1,577% compared to XR's 1,794%. This suggests that FFF's content resonates deeply with its audience, potentially due to its focus on impactful visual storytelling and frequent updates that keep its community engaged and informed.

	Fridays For Future (FFF)	**Extinction Rebellion (XR)**
Followers	447500	654000
Uploads	712	2400
Engagement	1,577%	1,794%
Average likes	580,3	950,8
Average comments	7,8	27,3
Average activity	100%	100%
Publishing per day	0,75	0,35
Post per week	5,25	2,47

Table 1. Analysis of the Instagram international accounts of FFF and XR.
Source: Own elaboration.

The analysis of Instagram metrics for Fridays for Future (FFF) and Extinction Rebellion (XR) unveils distinct trends that shed light on their respective social media strategies and audience engagement. Extinction Rebellion is observed to have a larger follower base than Fridays For Future, which may indicate a broader reach or a greater general interest in their thematic content. This larger follower count suggests that XR's message may have a wider appeal or that their social media strategies have effectively expanded their visibility and influence.

Furthermore, Extinction Rebellion demonstrates a more active approach to content sharing, as evidenced by a significantly higher number of posts. This prolific content production suggests a strategic commitment by XR to maintain a dynamic and engaging online presence, likely aiming to keep the audience continually informed and involved. The higher volume of posts may also contribute to XR's ability to stay relevant and visible in the fast-paced social media environment.

In terms of engagement, both organizations exhibit high engagement rates, with Extinction Rebellion marginally outperforming Fridays for Future. This slightly higher engagement rate for XR could stem from various factors including the compelling nature of their content, the strategic frequency of their posts, and the effective engagement tactics they employ. These factors combined suggest that XR's content not only reaches a wide audience but also resonates strongly, eliciting more interactions per post in the form of likes and comments.
Consistently, XR's posts receive more likes and comments on average compared to FFF, aligning with the observed higher engagement rate and indicating that XR's content is well-received by its audience. This level of interaction suggests that XR's messaging is effective in engaging and provoking responses from its followers, which is crucial for fostering a sense of community and active participation among supporters.

Both profiles display an activity rate of 100%, showcasing a sustained commitment to interacting with their followers. This consistent engagement is pivotal in building and maintaining a loyal audience base that feels connected to the movement's goals and activities. Despite having a smaller follower base, Fridays for Future adopts a strategy of more frequent postings per day and per week than Extinction Rebellion. This approach likely helps FFF keep their audience continuously engaged, ensuring that their message remains fresh and top-of-mind despite the smaller scale of their social media footprint.

Twitter

The disparity in follower counts on Twitter further highlights the differing reach and influence of XR and FFF. XR's 410,700 followers significantly outnumber FFF's 141,800, indicating a broader social media reach that could enhance its ability to mobilize support and spread its environmental messages. This platform's fast-paced nature complements XR's dynamic activism style, potentially aiding in quicker dissemination and stronger public engagement with their campaigns.

	Fridays For Future (FFF)	**Extinction Rebellion (XR)**
Followers	141800	410700

Table 2. Analysis of the Twitter international accounts of FFF and XR.
Source: Own elaboration.

The analysis of the Twitter follower data reveals a significant disparity between Extinction Rebellion (XR) and Fridays For Future (FFF), which serves as an important indicator of their respective social media presences and strategic outreach. Extinction Rebellion commands a considerable following with 410,700 followers, compared to Fridays For Future's 141,800 followers. This difference in follower count has several implications for the reach and influence of both movements on social media.

Reach and Influence:

Extinction Rebellion's larger follower base suggests that it has a wider reach on social media, potentially amplifying its influence across diverse audiences. The substantial following indicates that XR's messages and campaigns are likely to have greater visibility, enabling them to engage with a broader segment of the public. This enhanced reach is crucial for spreading the movement's environmental messages and for mobilizing support on a larger scale. The dynamic and often disruptive nature of XR's activism, which resonates well with the fast-paced environment of Twitter, may contribute to their stronger presence.

Engagement Potential

While the number of followers does not directly correlate with engagement rates, having a larger follower base inherently offers more opportunities for interactions, such as likes, retweets, and comments. For XR, this means that each post has the potential to be seen and interacted with by more users, thereby increasing the likelihood of viral spread and higher

visibility of their content. This enhanced engagement potential is an asset in the digital age where visibility can correlate with influence.

Movement Dynamics

The difference in follower counts between XR and FFF could also reflect the distinctive characteristics of each movement. Extinction Rebellion is known for its bold and high-visibility tactics, which are likely to attract attention on platforms like Twitter that favor quick news updates and engaging content. In contrast, FFF's approach, while highly impactful, may resonate differently with social media users, possibly due to differences in campaign tactics or messaging strategies.

Global Recognition

Both movements are globally recognized; however, the disparity in Twitter followers might also suggest variations in how they are perceived across different demographics and international audiences. This could indicate differing strategies in digital communication and engagement, with XR possibly having a broader or more appealing approach in the context of Twitter's user base.

In summary, the analysis of Twitter followers provides critical insights into the digital strategies and public engagement levels of Extinction Rebellion and Fridays For Future. Understanding these dynamics is essential for both movements as they continue to adapt and evolve their strategies to effectively use social media for environmental activism. The data not only reflects their current digital footprint but also highlights the importance of leveraging social media to influence public opinion and encourage global action on environmental issues.

Strategic Differences and their impacts

XR's approach, characterized by a significantly larger follower base and greater content output on both Instagram and Twitter, suggests a strategic preference for wide reach and frequent interaction. This method has evidently broadened XR's influence, enabling the movement to engage with a diverse global audience effectively. The high volume of content, coupled with strong engagement rates, indicates XR's content resonates well with its followers, facilitating sustained interaction and discourse around urgent environmental issues.

Conversely, FFF, while having fewer followers, demonstrates an exceptionally high engagement rate, particularly on Instagram. This suggests that FFF's content deeply engages its audience, possibly due to its focused and resonant messaging that often centers around urgent calls to action and impactful visual storytelling. FFF's strategy of frequent updates appears to maintain a continuous connection with its audience, keeping the movement's message alive and top-of-mind among its supporters.

Effectiveness in Mobilization and Advocacy

Both movements have successfully used social media to not only spread awareness but also to mobilize action. XR's broader reach allows it to effectively disseminate its message and rally support for global protests and initiatives. Meanwhile, FFF's ability to maintain high engagement rates ensures that its campaigns receive sustained attention and participation, particularly from younger demographics who are highly active on platforms like Instagram.
Challenges and Opportunities

While both XR and FFF have harnessed the power of social media effectively, the analysis also highlights challenges such as maintaining follower growth and managing the rapid pace of social media dynamics. Additionally, the data suggests opportunities for further optimizing their social media strategies. For instance, XR could focus on increasing user interaction per post to match its high follower count, whereas FFF might explore strategies to expand its reach without sacrificing the high engagement it currently enjoys.

Implications for Future Environmental Activism

The strategic use of social media by XR and FFF serves as a powerful model for other environmental movements looking to amplify their voice and mobilize global support. The insights gained from this analysis not only highlight the importance of tailored content and engagement strategies but also underscore the necessity of adapting to the evolving digital landscape to maximize impact. To sum up, the effective utilization of social media by XR and FFF has not only facilitated widespread engagement and mobilization but also significantly contributed to the global discourse on climate action. As digital platforms continue to evolve, the potential for these tools to shape public opinion and influence policy on a global scale remains immense, offering promising avenues for advancing the cause of environmental activism.

Discussion

Responses to Research Questions

This thesis investigates the efficacy of digital platforms employed by Extinction Rebellion (XR) and Fridays for Future (FFF) in mobilizing individuals globally, influencing public perception, and effecting political change. The research integrates survey results with social media analytics within the frameworks of Network Society and Digital Activism Theories.

Analysis of Global Mobilization

The survey and social media data indicate that XR and FFF have successfully utilized digital platforms to transcend traditional geographic and socioeconomic barriers. XR's significant follower base and active content dissemination strategy on Twitter suggests a broader reach and potential influence, aligning with its radical and media-savvy activism approach. In contrast, FFF's frequent, visually engaging posts on Instagram cater to a younger demographic, ensuring sustained interaction and engagement. This strategic use of digital media supports the Network Society Theory, which posits that decentralized communication structures are crucial for modern social movements to expand.

Impact on Public Perception and Political Change

Moreover, the data from the survey underscores a positive shift in public awareness and engagement with environmental issues, attributed to the digital campaigns of XR and FFF. A substantial portion of respondents reported increased environmental awareness and participation in related activities, highlighting the movements' impact on public discourse and action. These findings corroborate the Environmental Communication Theory, suggesting that strategic communication through digital platforms can effectively alter public perceptions and motivate collective action.

Effectiveness of International Collaborative Efforts

The collaborative endeavors between XR and FFF are reflected in joint campaigns and global events that have resonated widely on social media platforms. This synergy enhances their collective ability to mobilize support and advocacy on an international scale. Such collaborations exemplify the principles of Social Movement Theory, emphasizing the importance of solidarity and collective action in amplifying the movements’ demands and visibility.

Evaluation Against Hypotheses

Hypothesis 1: "The strategic use of social media by XR and FFF enhances global participation in their activities."

The analysis of social media metrics provides compelling evidence to support Hypothesis 1. For both Extinction Rebellion (XR) and Fridays for Future (FFF), digital platforms serve as critical tools in their activism arsenal, enabling them to reach a global audience and engage participants across different regions and demographics.

Firstly, both groups have cultivated substantial followings on digital platforms such as Instagram and Twitter. In fact, Extinction Rebellion (XR) has achieved especially a high number of followers, indicative not only of broad awareness but also of robust participation in campaigns and events that the movement promotes. This online presence underscores the wide reach of these environmental groups, transcending geographical boundaries and mobilizing a global network of support.

Secondly, the engagement rates, encompassing likes, comments and shares are impressively high for both XR and FFF. These metrics serve as crucial indicators of interactive participation, suggesting that followers are more than passive observers, actively engaged, contribute to discussions, disseminate the message, and participate in their online activities. As a result, the level of engagement shows the effectiveness of the content share by the movements in creating action and fostering a connected international community with the same vision and goals.

Thirdly, both XR and FFF maintain a highly active social media profiles, characterized by regular and strategic postings. Whereas XR's frequent updates correlate with its strategic goal of engaging continuously with its audience and ensuring that the movement remains relevant. FFF employs a more targeted posting schedule, balancing between maintaining visibility and ensuring that the content is impactful. Both approaches help to maintain engagement by keeping the audience informed and involved.

Strategic Implications

The strategic use of content, ranging from educational posts and crisis updates to mobilization calls, plays a pivotal role in harnessing global participation. The tailored content caters to the interests and needs of diverse groups, fostering a sense of involvement and community among

global audiences. Both movements leverage their digital platforms to educate followers about environmental issues and engage them in ongoing campaigns. Amplifying their impact, facilitating the growth of a community that is equipped to participate in meaningful environmental activism.

Hypothesis 2: "Mobilizations by XR and FFF significantly impact public perception and induce political changes."

The survey data robustly supports Hypothesis 2, illustrating how digital mobilizations by XR and FFF have profoundly influenced public perception and spurred political engagement. A significant number of survey respondents acknowledged an increased awareness and concern for environmental issues as a direct result of engaging with XR and FFF's digital content. This shift in perception is crucial for building public consensus and support for environmental action. This altered perception is not merely superficial, because it plays a fundamental role in building environmental action. By changing the public perception of the environmental threats and the urgency of addressing them, XR and FFF have successfully motivated a larger audience to advocate for and support sustainable practices and policies.

The survey also highlighted an increase in political activism, with respondents reporting greater participation in environmental protests, advocacy for policy changes, and engagement with local and national political processes because of their exposure to XR and FFF's campaigns. This rise in political activism shows the effective translation of the digital engagement into active involvement in the offline sphere. Highlighting the capacity of social media and other platforms to inform and mobilize individuals.

Influence on Policy

There are tangible examples where mobilizations have led to local or national policy discussions and changes. Campaigns that originated online have successfully transitioned into formal policy debates, underscoring the direct impact of digital activism on the political sphere. Campaign initiated and popularized through digital platforms have successfully crossed over into formal policy arenas, directly on the legislative process.

As an example, we can use the XR's persistent campaigns and protests in the United Kingdom (UK), heavily promoted and organized through social media, contributed to the UK government's decision to legislate net-zero carbon emissions target by 2050. The dramatic protest and the digital advocacy of the group, highlighted the emergency of climate action, resonating with the public and pressuring policymakers to commit to this goal.

Moreover, both XR and FFF have used digital platforms to coordinate global days of action, leading to over 1.500 jurisdictions in various countries declaring a climate emergency. Among these we can include, Australia, United Kingdom, Canada, United States, New Zealand and the countries in the European Union, among many other. These, often follow intense periods of digital campaigning, including online petitions and demonstrations which raise awareness and mobilize local communities.

This transition from online mobilization to tangible policy impacts shows the powerful role of digital activism in shaping the political landscape, effectively turning public sentiment into actionable political outcomes.

Case Studies

Specific instances, such as successful campaigns against environmental policies or corporate practices, further substantiate the hypothesis. These case studies demonstrate how online mobilization can escalate into significant political outcomes, affecting legislation and corporate governance. Whether is pushing for stricter environmental regulation, influencing corporate sustainable practices, or instigating governmental action, these case studies demonstrate the impact of XR and FFF's strategical digital engagement.

On this regard, Fridays for Future (FFF) used digital tools to organize and rally support for stronger commitments under the Paris Agreement. This influenced the agenda of the Cop 26. The movement's online campaigns gathered millions of young people worldwide, creating protests and virtual events that were critical in pushing nations to enhance their Nationality Determined Contributions (NDCs) during the conference.

Results

The integration of empirical data from surveys and social media with theoretical insights provides robust confirmation of the research hypotheses. Both XR and FFF have effectively harnessed digital platforms not only to widen their outreach but also to influence public perception and instigate substantial political changes. These findings underscore the critical role of digital strategies in contemporary activism, highlighting the transformative potential of information technology in facilitating global movements and societal shifts in the environmental sector.

The digital tactics employed by both groups have allowed them to connect with a diverse, global audience, transcending geographical and cultural barriers that traditionally limited these movements. The use of social media, digital content and interactive platforms has generated a broadened outreach. Enabling organizations to disseminate their messages widely and effectively.

The empirical data also indicates a marked shift in public awareness and attitudes towards environmental issues, directly correlated with the digital content and campaigns propagated by these movements. Increasing the engagement and support for policy changes reflecting a deeper change in public discourse and understanding of the broader issue.

Furthermore, the study highlights how digital mobilization have led into a tangible political outcome, including legislative changes and the adaptation of more radical environmental policies. These are a direct result of the pressure and visibility generated through coordinated digital campaigns, which have effectively held governments and corporations accountable.

The findings underscore the critical role of digital strategies in environmental activism, highlighting how information technology can facilitate not just the communication and engagement, but also global movements and society changes. The success of these groups using digital tools aligns with theories of digital activism and social movement theory, which emphasize the potential of online platforms in mobilizing large scale support and driving social change.

All in all, this analysis, confirms that XR and FFF's use of digital communications and platforms is enhancing their capabilities for outreach, influencing public perception, and driving political action. Demonstrating that digital strategies are indispensable in the modern era of activism. By developing this, these movements can continue to expand their influence and achieve significant advancements in their fight against climate change.

Theoretical and Practical Reflections

The findings from the survey and social media analysis enrich our understanding of digital activism through the lenses of Network Society Theory and Digital Activism Theory. These theories propose that digital platforms, by their very nature, enable movements like XR and FFF to bypass traditional communication barriers, facilitating a broader and more inclusive global outreach. This is clearly evidenced by XR's extensive follower base and the high engagement rates that both movements enjoy. Digital Activism Theory, which underscores the importance of technology in enabling social movements, is particularly validated by the movements' strategic use of social media to engage diverse global audiences effectively.

Additionally, the Environmental Communication Theory provides a framework to understand how XR and FFF use digital platforms not only to disseminate information but also to engage public sentiment and drive community action. This theory helps explain why certain types of content (such as XR's disruptive activism and FFF's educational posts) resonate well with their audiences, leading to higher levels of engagement and participation.

Practical Applications

From a practical standpoint, the integration of social media metrics with survey data offers actionable insights into the effectiveness of the movements' digital strategies. For instance, XR's larger number of followers and posts on Twitter suggests a strategy focused on broad reach and frequent communication. In contrast, FFF's approach, characterized by more frequent but visually engaging posts on Instagram, targets deeper engagement with a specific demographic. This distinction not only highlights the tactical differences between the two movements but also underscores the importance of tailoring social media strategies to the movements' unique goals and audience preferences.

The analysis also reveals the crucial role of social media in shaping public opinion and mobilizing action. For example, the high engagement rates suggest that XR and FFF are successful in creating content that not only attracts attention but also encourages interaction and participation. This is instrumental in driving the viral spread of their campaigns, amplifying their impact beyond what traditional media channels could achieve.

Reflecting on Movement Dynamics

The survey and social media data combined provide a nuanced understanding of how XR and FFF adapt their strategies to maximize impact. The difference in their social media approaches—XR's broad and frequent outreach vs. FFF's targeted and engaging content—reflects their respective operational philosophies and campaign tactics. This adaptation to digital mediums highlights the dynamism and flexibility required to sustain influence and drive engagement in the digital age.

Global Recognition and Adaptation

Finally, the global recognition of XR and FFF, as evidenced by their diverse follower demographics and international campaign reach, showcases the power of digital platforms in transcending geographical boundaries. This global presence aligns with the Network Society Theory's emphasis on the role of digital networks in shaping modern social movements, illustrating how these platforms facilitate a new form of environmental governance that is decentralized, yet globally interconnected.

Conclusion

In the context of escalating environmental crises, this thesis has explored the critical roles of Extinction Rebellion (XR) and Fridays for Future (FFF) as influential, decentralized youth movements addressing the urgent need for ecological action. Both movements, driven by a shared commitment to Non-Violent Direct Action (NVDA), have adeptly utilized digital platforms to disseminate their messages and mobilize global support. The integration of survey data and social media analytics has provided a comprehensive understanding of how XR and FFF leverage online tools to enhance their outreach and engage effectively with a diverse, international audience.

The investigation confirmed that digital platforms are instrumental for XR and FFF not only in amplifying their environmental advocacy but also in overcoming geographical and socioeconomic barriers that traditionally hindered activist movements. The data demonstrated that XR, with its bold, direct-action tactics, has capitalized on its larger social media presence to foster a broader global reach and influence. In contrast, FFF has harnessed the power of viral campaigns and its strong visual presence on platforms like Instagram to maintain high levels of engagement, particularly among the youth.

Theoretically, the study was underpinned by concepts from the Network Society and Digital Activism theories, which suggest that the decentralized nature of digital communication is crucial for the modern propagation of social movements. These theories were vividly illustrated by the movements' ability to mobilize internationally, as digital platforms broke down the conventional constraints of activism. Additionally, the Environmental Communication Theory provided insights into how effectively these movements communicate complex ecological issues, translating scientific urgency into widespread public action.

Practically, this research highlighted the significant impact of strategic digital communication in fostering extensive public engagement and driving political discourse. XR's and FFF's digital strategies, particularly their adept use of social media analytics to refine and target their messaging, have not only broadened their demographic reach but have also deepened their impact, influencing public opinion and policy on an unprecedented scale.

Moreover, the synergistic use of social media has enabled these movements to maintain momentum and adapt quickly to the changing digital landscape, ensuring their campaigns remain relevant and impactful. Through their innovative use of digital tools, XR and FFF have set precedents for how environmental movements can operate globally in the digital age, making a compelling case for the power of integrated digital activism.

In conclusion, the findings from this study not only affirm the hypotheses that digital platforms significantly enhance global participation and impact public perception and policy but also contribute to the broader discourse on digital activism's role in environmental advocacy. By understanding the operational dynamics and communication strategies of XR and FFF, this research has provided valuable contributions to the field of environmental communication,

offering implications for policy formulation, movement strategy, and societal engagement in the face of global environmental challenges.

Future investigation purposes

The future investigation purposes outlined suggest a comprehensive and multi-faceted approach to further exploring the dynamics and impacts of environmental activism, particularly relating to Extinction Rebellion (XR) and Fridays for Future (FFF). Here's a detailed breakdown of these future research areas:

1. **Conducting a more in-depth analysis of the impact of social media on the effectiveness of XR and FFF strategies.**

   This research would delve deeper into how XR and FFF use social media to engage with supporters, spread their messages, and organize events. It would involve analyzing social media metrics, content strategies, and the overall impact of these efforts on campaign reach and engagement. The study could use data analytics tools to track engagement rates, viral trends, and the demographic profiles of those interacting with the movements online.

2. **Investigating the specific policy changes influenced by XR and FFF and their long-term implications.**

   This study would focus on identifying and documenting specific legislative or policy changes that have been influenced by XR and FFF's activities. It would also examine the sustainability of these changes and their long-term effects on environmental policies and practices. Methods might include interviews with policymakers, analysis of legislative texts, and assessment of policy implementation and outcomes over time.

3. **Exploring the role of youth-led environmental movements in shaping global environmental governance structures.**

   Research in this area would assess how youth-led movements like XR and FFF influence global environmental governance. This could involve studying the participation of these movements in international conferences, their impact on international environmental agreements, and their role in shaping the environmental agendas of multinational organizations. This might require a combination of qualitative

methods such as participant observation and key informant interviews, as well as quantitative methods to measure impact.

4. **Examining the challenges and opportunities posed by digital platforms for environmental activism in addressing intersectional environmental issues.**
   This investigation would explore how digital platforms can both aid and challenge the inclusion of intersectional environmental issues within the broader environmental activism agenda. It would analyze how topics such as race, gender, and socioeconomic status intersect with environmental campaigns on digital platforms. The study could utilize case studies of specific campaigns, content analysis of digital media communications, and interviews with activists to understand these dynamics better.

Each of these future research purposes not only builds on the existing knowledge base but also opens new avenues for understanding the complexities and impacts of modern environmental activism. These studies would contribute significantly to both academic scholarship and practical approaches to environmental activism, especially in leveraging digital tools and understanding policy impacts.

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Annex

A1. Survey

This survey was conducted with a sample of 368 individuals, featuring a standardized initial section known as Model A, completed by all participants. Subsequently, the survey diverged into two distinct pathways: Model B and Model C. Model B, which was specifically tailored for individuals affiliated with environmental groups such as Extinction Rebellion (XR) and Fridays for Future (FFF), included 36 respondents, accounting for 10% of the total sample. Conversely, Model C was designed for the remaining 328 respondents, constituting 90% of the sample, who are not affiliated with any environmental groups. This bifurcation allowed for targeted analysis of the attitudes and behaviors between active members of environmental movements and the public.

A.1.1 Model A.

1.1.1 Socioeconomic characteristics

Table 1. 1 Frequency table for age.

Age groups	Frequency	Percentage
15-19	24	6.5%
20-24	159	43 %
25-29	93	26.2%
30-34	47	13.2%
35-44	34	9.2%
+45	7	2.25%
Total	364	100%

Table 1. 2 Frequency table for gender.

Gender	Frequency	Percentage
Man	39	11%
Woman	310	85%
Non-binary	12	3%
Non specified	3	1%
Total	364	100%

Table 1. 3 Level of education.

Level of education	Frequency	Percentage
Level 1. Primary Education.	0	0%
Level 2. Secondary Education.	17	5%
Level 3. Vocational Education.	28	8%
Level 4. Bachelor’s Degree.	182	50%

Level 5. Master's degree.	120	33%
Level 6. Doctorate.	13	4%
Special Education	4	1%
Total	364	100%

Table 1. 4 Geographical location.

Country of Residence	Frequency	Percentage
Spain	329	90%
Other EU Countries	29	8%
Other non-EU Countries	6	2%
Total	364	100%

Table 1. 5 Work.

Status	Frequency	Percentage
Self-employed	17	4.2%
Unemployed	49	12%
Part-time employer	38	9.3%
Full-time employer	131	32%
Student	172	42%
Retiree	1	0.3%
Total	364	100%

Table 1. 6 Annual Income.

Status	Frequency	Percentage
Less than €12,000	36	9%
€12,000 - €20,200	76	19%
€20,200 - €35,200	114	28%
€35,200 - €60,000	104	26%
€60,000 - €300,000	33	8%
More than €300,000	1	0.3%
Total	364	100%

Table 1. 7 People living in the same household.

Status	Frequency	Percentage
1	31	8%
2	108	26.5%
3	101	25%
4	94	23%
5	28	7%
+5	2	0.5%
Total	364	100%

1.1.2 Frequency of use of Digital Platforms

Table 2.1 Frequency of use of Instagram

Status	Percentage
None	3%
1 hour or less	25%
2 hours or less	36%
3 hours or less	22%
More than 3 hours	14%
Total	100%

Table 2.2 Frequency of use of TikTok

Status	Percentage
None	77%
1 hour or less	10%
2 hours or less	7%
3 hours or less	3%
More than 3 hours	3%
Total	100%

Table 2.3 Frequency of use of Twitter

Status	Percentage
None	68%
1 hour or less	22%
2 hours or less	5%
3 hours or less	3%
More than 3 hours	2%
Total	100%

Table 2.4 Frequency of Use of Other Media Platforms

Status	Percentage
None	45%
1 hour or less	31%
2 hours or less	13%
3 hours or less	7%
More than 3 hours	4%
Total	100%

1.1.3 Political Data and Active Participation

Table 3.1 Participation in Ecological Movements.

Status	Frequency	Percentage
Yes	86	24%
No	278	76%

Total	364	100%

Table 3.2 Political Ideology.

Spectrum	Frequency	Percentage
Left	284	78%
Centre	36	10%
Right	16	16%
No answer	28	28%
Total	364	100%

A.1.2 Model B.

1.2.1 General Information.

Table 4.1 Group.

Group	Frequency	Percentage
Extinction Rebellion	16	44%
Fridays for Future	9	25%
Others*	11	31%
Total	36	100%

These were sent immediately to Model C. Because they are not part of the groups of study.

Table 4.2 Level of Awareness.

Group	Frequency	Percentage
1	0	0%
2	2	8%
3	5	20%
4	8	32%
5	10	40%
Total	25	100%

Table 4.3 Source of information regarding climate change matters.

Source	Frequency	Percentage
Conferences and talks	15	13%
Books and publications	13	11%
Traditional Media	10	8%
Podcasts	11	9%
Documentaries and TV	11	9%
Contact with activists	20	17%
Social Media	20	17%
Websites	16	14%
Total	116	100%

Table 4.4 Source of discovery of FFF or XR.

Source	Frequency	Percentage
Digital Media	9	36%
Traditional Media	6	24%
Demonstrations	6	24%
Other	2	8%
Recommendation	1	4%
Academic Institutions	1	4%
Total	25	100%

Table 4.5 Main motives that motivated joining FFF or XR.

Motive	Frequency	Percentage
Environmental Awareness	17	16%
Dissatisfaction with Government Inaction	11	11%
Generational Commitment	11	11%
Belief in the Effectiveness of Collective Action	16	15%
Use of Social Media	2	2%
Need for Environmental Justice	18	17%
Concern for the Future.	19	18%
Desire to make a difference	9	9%
Leader Inspiration	0	0%
None of the above	1	1%
Total	104	100%

1.2.2 FFF/XR Matters

Table 5.1 Reasons of relevance of the existence of FFF or XR.

Motive	Frequency	Percentage
Belief in the Effectiveness of Direct Action	12	9%
Building Global Awareness	16	12%
Influence in the Governments	16	12%
Youth Mobilization	14	10%
Importance of Civil Disobedience	15	11%
Need for Structural Change	20	15%
Influence in the Politics and Decision-Making	8	6%
Value of Citizen Participation	21	16%
Role of Youth in Decision-Making	9	7%
None of the above	0	0%
Total	131%	100%

Table 5.2 Importance of the youth to fight against climate change.

Motive	Frequency	Percentage
Promoters	11	44%
Liabilities	11	44%
Detractors	3	12%
Total	25	100%

Table 5.3 Influence of social media in your involvement and awareness in the group.

Motive	Frequency	Percentage
Promoters	17	68%
Liabilities	5	20%
Detractors	3	12%
Total	25	100%

Table 5.4 Influence of social media on the Impact among non-members of XR/FFF.

Motive	Frequency	Percentage
Amplifying messages	21	17%
Access to resources	19	16%
Discovery of new movements	19	16%
Global connection	15	12%
Quick mobilization	16	13%
Continuous Awareness	12	10%
Youth mobilization	17	14%
None of the above	1	1%
Total	120	100%

Table 5.5 People outside XR/FFF have enough awareness of climate change.

Motive	Frequency	Percentage
Promoters	1	4%
Liabilities	0	0%
Detractors	24	96%
Total	25	100%

Table 5.6 People outside XR/FFF mobilize the youth.

Motive	Frequency	Percentage
Promoters	6	24%
Liabilities	11	44%
Detractors	8	32%
Total	25	100%

Table 5.7 Social media are a key tool for the participation of people in these groups.

Motive	Frequency	Percentage
Promoters	14	56%
Liabilities	8	32%
Detractors	3	12%
Total	25	100%

Table 5.8 These movements are inspiring to work together to build a better world.

Motive	Frequency	Percentage
Promoters	15	60%
Liabilities	9	36%
Detractors	1	4%
Total	25	100%

1.2.3 Importance of the following actions

Table 6.1. Transition to Renewable Energies for fighting against climate change.

Level of importance	Percentage
1	40%
2	44%
3	4%
4	12%
5	0%
Total	100%

Table 6.2. Compulsory Environmental Education for fighting against climate change.

Level of importance	Percentage
1	60%
2	20%
3	8%
4	12%
5	0%
Total	100%

Table 6.3. Biodiversity Conservation.

Level of importance	Percentage
1	72%
2	24%
3	4%
4	0%
5	0%
Total	100%

Table 6.4 Reduce the Plastic Consumption for fighting against climate change.

Level of importance	Percentage
1	48%
2	32%
3	16%
4	4%
5	0%
Total	100%

Table 6.5 Subsidies for Sustainable Enterprises for fighting against climate change.

Level of importance	Percentage
1	28%
2	20%
3	28%
4	12%
5	12%
Total	100%

Table 6.6 Sustainable Agriculture for fighting against climate change.

Level of importance	Percentage
1	76%
2	16%
3	8%
4	0%
5	0%
Total	100%

Table 6.7 Taking care of marine ecosystems for fighting against climate change.

Level of importance	Percentage
1	76%
2	24%
3	0%
4	0%
5	0%
Total	100%

Table 6.8 Sustainable Transport for fighting against climate change.

Level of importance	Percentage
1	64%
2	20%
3	12%
4	4%
5	0%
Total	100%

Table 6.9 Citizen Commitment for fighting against climate change.

Level of importance	Percentage
1	56%
2	28%
3	12%
4	0%
5	4%
Total	100%

Table 6.10 Green Technology Development for fighting against climate change.

Level of importance	Percentage
1	24%
2	28%
3	16%
4	20%
5	12%
Total	100%

1.2.4 Likelihood to do these actions to lead a more environmentally friendly life.

Table 7.1 Reduce meat consumption.

Level of importance	Percentage
1	0%
2	4%
3	4%
4	24%
5	4%
Already taking this action	64%
Total	100%

Table 7.2 Use of public transport.

Level of importance	Percentage
1	0%
2	0%
3	8%
4	16%
5	16%
Already taking this action	69%
Total	100%

Table 7.3 Plastic Consumption.

Level of importance	Percentage
1	0%
2	8%
3	4%
4	20%
5	24%
Already taking this action	44%
Total	100%

Table 7.4 Recycling.

Level of importance	Percentage
1	4%
2	8%
3	4%
4	16%
5	20%
Already taking this action	48%
Total	100%

Table 7.5 Consumption of Local Products.

Level of importance	Percentage
1	0%
2	4%
3	12%
4	28%
5	32%
Already taking this action	24%
Total	100%

Table 7.6 Activism

Level of importance	Percentage
1	0%
2	0%
3	4%
4	8%
5	20%
Already taking this action	68%
Total	100%

Table 7.6 Saving energy in the household

Level of importance	Percentage
1	0%
2	0%
3	16%
4	16%
5	28%
Already taking this action	40%
Total	100%

A1.3 Model C.

1.3.1 General Information

Table 8.1 Level of awareness of environmental issues and climate change.

Level of awareness	Frequency	Percentage
Really Low	3	0.8%
Low	4	1.1%
Moderate	83	22.8%
High	147	40.4%
Really high	123	33.8%
Not sure	4	1.1%
Total	364	100%

Table 8.2 Participation in movements or activities related to the defense of the environment.

Status	Frequency	Percentage
Yes	230	63%
No	107	29%
Not sure	27	7%
Total	364	100%

Table 8.3 Social media influence in your perception of the problems regarding climate change and similar matters.

Status	Frequency	Percentage
Promoter	69	19%
Passive	167	45.9%
Detractor	128	35.1%
Total	364	100%

Table 8.4 Doubts about the efficacy of movements such as XR of FFF for dealing with environmental problems.

Status	Frequency	Percentage
Promoter	17	4.7%
Passive	72	19.8%
Detractor	275	75.5%
Total	364	100%

Table 8.5 Source of information on environmental issues and climate change.

Source	Frequency	Percentage
Traditional media	171	12.5%
Social media	319	23.2%
Activists	80	5.8%
Podcasts	124	9%
Conferences and Talks	130	9.5%
Books and Publications	165	12%
Documentaries and TV	206	15%
Websites	178	13%
Total	1373	100%

1.3.2 Sustainability practices.

Table 9.1 Need for more intense actions to address environmental problems.

Status	Frequency	Percentage
Promoter	222	61%
Passive	102	28%
Detractor	40	11%
Total	364	100%

Table 9.2 Importance of Renewable Energies Transition for fighting against climate change.

Level of importance	Percentage
1	1,1%
2	1,4%
3	3,8%
4	34,4%
5	59,3%
Total	100%

Table 9.3 Importance of Mandatory Environmental Education for fighting against climate change.

Level of importance	Percentage
1	1.4%
2	1.1%
3	5.8%
4	20.6%
5	71.2%
Total	100%

Table 9.4 Importance of Biodiversity for fighting against climate change.

Level of importance	Percentage
1	0.5%
2	0.8%
3	1.6%
4	17.9%
5	79.1%
Total	100%

Table 9.5 Importance of the Reduction of Plastic Consumption for fighting against climate change.

Level of importance	Percentage
1	0.8%
2	0.5%
3	6%
4	24.5%
5	68.1%
Total	100%

Table 9.6 Importance of Incentives to Sustainable Enterprises for fighting against climate change.

Level of importance	Percentage
1	1.9%
2	3.3%
3	12.6%
4	37.1%
5	45.1%
Total	100%

Table 9.7 Importance of Sustainable Agriculture for fighting against climate change.

Level of importance	Percentage
1	1.1%
2	1.9%
3	5.5%
4	27.5%
5	64%
Total	100%

Table 9.8 Importance of Preservation of Marine Ecosystems for fighting against climate change.

Level of importance	Percentage
1	0.5%
2	0%
3	3%
4	15.4%
5	81%
Total	100%

Table 9.9 Importance of Sustainable Transport for fighting against climate change.

Level of importance	Percentage
1	1.1%
2	0.5%
3	5.8%
4	26.6%
5	65.9%
Total	100%

Table 9.10 Importance of Society Compromise for fighting against climate change.

Level of importance	Percentage
1	0.8%
2	1.4%
3	8.5%
4	25.8%
5	63.5%
Total	100%

Table 9.11 Importance of Development of Green Technologies for fighting against climate change.

Level of importance	Percentage
1	1.9%
2	2.7%
3	8%
4	24.7%
5	62.6%
Total	100%

Table 9.12 Importance of youth for fighting climate change for fighting against climate change.

Status	Frequency	Percentage
Promoter	223	61.3%
Passive	107	29.4%
Detractor	34	9.4%
Total	364	100%

1.3.3 Sustainable actions.

Table 10.1 Probability that you start reducing your meat consumption.

Level of probability	Percentage
1	6.6%
2	6.9%
3	15.1%
4	18.4%
5	6%
Already taking this action	47%
Total	100%

Table 10.2 Probability that you start using public transport more frequently.

Level of probability	Percentage
1	1.4%
2	2.5%
3	12.1%
4	17.9%
5	14.3%
Already taking this action	51.9%
Total	100%

Table 10.3 Probability that you start reducing Plastic in your household.

Level of probability	Percentage
1	1.1%
2	3.6%
3	12.4%
4	29.1%
5	20.9%
Already taking this action	33%
Total	100%

Table 10.4 Probability that you start recycling regularly.

Level of probability	Percentage
1	0.8%
2	3%
3	5.8%
4	12.9%
5	17.9%
Already taking this action	59.6%
Total	100%

Table 10.5 Probability that you start consuming local sourced products.

Level of probability	Percentage
1	0.8%
2	2.5%
3	14.8%
4	28%
5	25.3%
Already taking this action	28.6%
Total	100%

Table 10.6 Probability that you start participating in environmental activism.

Level of probability	Percentage
1	5.5%
2	11.3%
3	31.9%
4	23.4%
5	17.3%
Already taking this action	10.7%
Total	100%

Table 10.7 Probability that you start reducing energy consumption.

Level of probability	Percentage
1	0.5%
2	3.8%
3	9.3%
4	26.9%
5	20.6%
Already taking this action	38.7%
Total	100%

A.2 Video for survey promotion and analysis

I crafted a video that resonated widely, quickly going viral and amassing over 30,000 views across multiple social media platforms, which included LinkedIn, Instagram and TikTok. Its compelling content captured the attention of a diverse audience, sparking discussions and significant engagement online. This helped with the spreading of the survey getting over 300 participants.

@pauberlin (2024, February 18). *Cambiando el Mundo Juntos.* Instagram. Retrieved 6 of May of 2024 https://www.instagram.com/reel/C3fqbWRqJby/