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# Role of Artificial Intelligence in Arab Spring and Lessons for Pakistan in The Current Political Scenario after Deposition of Imran's Government

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**Abstract**

The study examines the role of artificial intelligence (AI) in perception building during the Arab Spring campaign. AI imitates human cognitive processes through technology, particularly computer systems. Individuals' use of social media (SM) to interact and exchange information has changed significantly due to the advancement of AI in communication technologies. Furthermore, social movements organised via SM and supported by AI might be one of the causes for the deposition of repressive governments in the Middle East, called "The Arab Spring." The use of SM in these revolutions showed the strength of the people against a corrupt government.AI and may be used to help members communicate with the government and obtain services. Protesters utilised SM to organise rallies, communicate information about their activities, and raise global awareness of current issues. AI increases Pakistan's economic growth. Technology has become crucial for economic growth since it might propel the country forward and help multiply growth in all sectors of the economy.

**Keywords:** Artificial Intelligence, Social Media, Arab Spring, Technological Determinism

## Introduction

AI refers to the use of computers and technology to develop human-like behaviour. AI has played a crucial role in social networking sites (SNs). It is proven to be the primary driving force for social movements (AlAshry, 2023). (Malik et al., 2023) indicated that technological developments in communication had significantly improved connections between people and guided their thought processes. In recent years, SNs, such as Facebook, Instagram, YouTube, and Twitter, have been the most appropriate ways of explaining the political

change in the Arab world (Bozkurt et al., 2023). AI provided SM with tools that help gather information and synchronise activities across various platforms (Alp, 2022). Tehzeeb and Raza (2022) explained that the Arab Spring was a phenomenon in which people rose against authoritarianism and oppressive governments. It was a struggle for those who employed SM and AI techniques to effect change in their country (Magsi et al., 2022). AI helped in automatically bringing forth related news, videos, and incidents of oppression in which people raised their voices for their rights. It significantly affects people's minds and establishes the tone for the movement (Gilani et al., 2022).

Moreover, the Arab Spring was a series of anti-government rallies, revolutions, and armed rebellions that swept the Arab world in the early 2010s (Jilani, 2020). It has gained momentum due to communication technology and AI tools spreading across various countries with the common denomination of political corruption, chronic unemployment, and discriminatory economic policies between the rich and the poor (Kaplan, 2020). SM provided a powerful medium. AI gave the impetus to mobilise all actions with speed and relatively low-cost tools for recruitment, collective discussions, and information sharing (Even & Siman-Tov, 2020). The Arab world's government systems were closed and difficult to change (Mutsvairo & Bebawi, 2022). Technology has made quiet ingresses into these structures. SM highlights the Arab revolutions, in which AI was an accelerating agent, helping the protests critically (Moran et al., 2023). Arabs took refuge in networking and communications, eventually becoming a platform for venting rage against tyrannical governments for democratic aspirations. Networking, new communication technologies, and applications have created new methods for political mobilisation (Alaniz, 2022)

El Gody (2021) said that introducing AI tools and apps enhanced the current technology, and people's social life has changed dramatically due to SM. During the Arab Spring, traditional media became less important than social networks such as Facebook and Twitter, which became more crucial (Masoud, 2021). The combination of SM and AI created a new wave of cyber activism by defining a new virtual world and laying the groundwork for a new socio-cultural domain involving individuals beyond boundaries (Hassan, 2020). Mehdi et al. (2019) indicated that SNs provide freedom of behaviour to people isolated from their identities. AI connects people's shared aims and has the power to hammer ideas into the intended target audience.AI had a significant part in the development of Arab Spring's socio-political scenarios (Karnouskos, 2020).

**Problem Statement**

Firstly, the Arab Spring was a wave of pro-democracy demonstrations and uprisings in the Middle East that challenged some of the region's long-standing authoritarian rulers (Djakat et al., 2023). Bani Salameh (2019) identified that it is commonly thought to have started with dissatisfaction with government power. However, significant income disparities and stresses brought on by the great recession may also have played a role (Muhammadsidiqov, 2022b). Mukhammadolim (2019) indicated that Arab nations faced severe problems such as political violence, foreign military involvement, unemployment, gender inequality, and widespread human vulnerability due to poverty and unmet fundamental requirements (Muhammadsidiqov, 2022a).

Second, the Arab Spring has profoundly impacted the Middle East. Outrage regarding

unemployment and poor living conditions was crucial to the Arab Spring (Bani Salameh, 2019). The discussion over economic policy has taken a back seat while various political groups squabble about power distribution (Issaev et al., 2021). Fakih et al. (2020) specified that many uprisings were led by students and other young people who were fed up with government corruption and a lack of economic opportunities (Barakat & Fakih, 2021). Various other factors contributing to the protests include human rights violations, insufficient transparency in redistribution, and the youth's refusal to accept the status quo (Honwana, 2019).

Moreover, Pakistan, like Arab countries, faces many problems. Poor government, corruption, inflation, unemployment, social discrimination, load shedding, power outages, and poverty (Amin & Gillani, 2023). Ayyad and Lugo-Ocando (2023) indicated that the recent Arab Spring had had a massive impact on Pakistan, which has always had links with the Middle East region. Firstly, Pakistan is a democratic country. Democracy in its current form is not perfect, but the system is in place (Diab et al., 2023). Due to regular strikes over electricity and gas shortages, besides other problems, Pakistan is likely to follow the Arab Spring. Another problem is the illegitimate social support for long-standing authoritarian rulers, their trust in the force, and a culture of threat (Ashraf & Ali, 2022).

Mangi et al. (2021) specified that rising inflation is also a significant problem facing Pakistanis. Protests in Pakistan occur almost daily due to the country's power issue. If the energy crisis worsens, there is a reasonable probability that protests may become more violent (Quamar, 2022). If an Arab spring-like phenomenon emerges in Pakistan, the military may not intervene and will let things play out. Pakistan's most considerable risk is falling to anti-government protests demanding elected leaders resign, as power has never served Pakistan well (Afzal & Harun, 2020). Regardless of the situation, Pakistan is anticipated to change. Sure, Pakistan has educational and infrastructure issues. It is fraught with health problems and human rights violations (Shah, 2019). Arab Spring in Pakistan will destroy it. Pakistan currently faces a faulty democracy over an imperfect dictatorship, scattered corruption in government, and stratified security, but it is a better situation than what this revolution may bring (Aras & Ekim, 2015).

Another problem is that Pakistanis are behind in a search for AI supremacy. Despite its large population and availability of natural resources, the country still needs to catch up in developing and accepting AI technology (Dwivedi et al., 2021). Pakistan risks falling behind in the global economy if it fails to make serious steps to remain competitive in a fast-changing world (Jamil, 2021). Calo (2017) indicated that Pakistan has been experiencing a severe energy crisis for several years, resulting in extended power outages and economic losses. However, both the development and implementation of AI in Pakistan need to be solved (Awais et al., 2021). In a country with high unemployment and poverty rates, AI deployment must be balanced with policies that support job creation and skill development (Munawar et al., 2023).

Further, another obstacle for a developing country like Pakistan may be the significant investment and skills necessary for AI development. To fully realise the potential benefits of AI, Pakistan must overcome specific challenges (Khan et al., 2022). Lastly, the most significant problem facing Pakistan's AI industry is matching AI's demand for massive amounts of standardised data with the human right to privacy (Abubakar et al., 2022). Without

government control, AI's enormous possibilities will be delegated to businesses. As a result, there is no incentive to use AI to solve the most significant problems (Nazar et al., 2021).

**What is AI?**

AI also refers to using technology & computers to develop moral behaviour similar to humans (Gire, 2017). John McCarthy used the term AI in 1956 to describe the science underlying it (Salih, 2013). AI is used in many other technologies, including machine learning, robotics, speech recognition, natural language production, and biometric identification. Business organisations, manufacturing, healthcare, and automobile industries use AI tools and apps (Gire, 2017). The emphasis of AI is more on engineering when it comes to creating intelligent programmes for certain applications, and it is more on research when studies are conducted to find solutions to specific problems. AI aims to create intelligent machines that can think and act like humans and handle extremely challenging practical, real-world problems. (Rana, 2017).

**Artificial Intelligence, Media and Social Movements**

Media is just a medium for propagating common values among the intending target audiences (out for movement) and the campaigners. The emergence of digital communication and AI has acted like an ignition flame in recent social movements. AI helps bring forth the common values upfront on the screen so that the campaigners and participants of the movement keep intact while using social media. Social media has various embedded benefits. It helps to gather masses with little contribution. It also needs to formulate the identity. Rather, it helps in cementing the ideas. Erstwhile social campaigns required monetary sources, experience, and a lot of coordination but digital communication and AI have resolved this issue. It helped the political groups to maintain the unity of approach with collective effort within a short time. News speed gives momentum to any movement and can affect the strongest pillar of power politics. AI helps conjugate common political thoughts and objectives and spreads the socio-political narrative to the intended targets by reaching out to them silently and addressing them (Balci & Gölcü, 2013).

Rudd highlights the work of Gadi and Gamson; according to them, "movements need the news media for three major purposes: mobilisation, validation and scope enlargement." It helps in steering and framing public discourse (Koopmans, 2004). The study also found that a social movement's qualities impact the media's framing and sympathetic tone. At this stage, it is important to consider social movements and online activities that support rather than externalise one another. Even if social movements include certain sorts of activities like strikes, protests, and marches, these activities can virtually materialise. There are several examples of online organisations and social movement activities. Even virtual activities carried out online are organised and can be maintained. Because of this, people in social movements even use websites to organise and publicise the movement (Jenkins, 2006).

**Theoretical Aspects Embedded in the Role of Technology (Social Media and AI) in Arab Spring**

***Technological Determinism Theory (TDT)***

Thorstein Veblen proposed the TD theory in 1929. According to this theory, mass media

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technology not only changes people's views and behaviours but also causes a revolution in how a social system operates (Burmanov & Anosova, 2020). This theory asserts that the functioning of a social fabric changes when new technologies develop (Chiyadzwa & Dube, 2014). The advancement of mass communication technology ensures culture diffusion in a society, which in turn helps to change human behaviour, according to TDT (Azam et al., 2020). According to theory, technological advancements play an important part in the evolution of society by causing changes in the daily interactions within the culture and society in which they are immersed (Yue, 2023). Technology has influenced all societies' everyday lives, providing professional and personal development (Čavoški, 2022). TDT also emphasises technology as a driving element in society's development (Salsone et al., 2020).

As per TDT, technology has allowed people of different ages and lifestyles to engage in personal and social activities. As technology becomes more widely used, internet users are beginning to find and use online SNs (Burns, 2004). People use technology to improve their social capital by interacting with known and unknown people (Grosik, 2010). This theory also indicates that technological revolutions from time to time have brought changes in societies, and innovations are considered the major mover of the social realm and the fundamental determinant of cultural change (Èšicä & Hadad, 2021).

According to the theory, the spread of communication technology helped modernise societies. SM played an important role in encouraging communication and interaction among protesters (Holl, 2022). With the use of technology, online revolutionary discussions often preceded huge protests on the ground, and SM played a key role in shaping political debates throughout the Arab Spring (Kelvin & Tsegyu, 2022). Technology, according to theory, affects social change. Technological advancements have enabled individuals to interact with SM on smartphones and laptops (Oparaugo, 2021). During the Arab Spring, SM enabled protesters to interact with one another and see who was supporting and preparing to join the movement (Omowale & Olanihun, 2022).

As per TDT, technology has a major impact on human life, even telling the trend of social development (Davenport, 2014). With the emergence of AI, the effect of technological determinism became increasingly clear. AI can change society. During the Arab Spring, SM disseminated information (Chettah et al., 2022). SM may have supported their position by allowing protestors to interact with one another and the rest of the world (Imo-Ter Nyam, 2021). According to TDT, the ability to communicate instantly among other demonstrators via SM played a critical part in the rapid success of the Arab Spring uprisings (Chinedu-Okeke & Obi, 2016). Furthermore, the success of the Arab Spring protests is generally attributed to Facebook groups and SM technology, which allowed for the organisation and broadcasting of the rallies (Anim, 2013).

**How AI works?**

Users of social media do influence by the contents - one mostly observes. Social media also provides a platform for users and influencers to generate various content of their choice. In this modern era, media networks and internet service providers use various AI tools to regulate and control the media content on their platforms (Rana, 2017). Based on the probability and continuous analysis machine learns about the users' areas of interest. Smart influencers use this probability to influence their agenda news and exploit people's choices

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(Norvig & Intelligence, 2002). This is how, whether one likes or not, one gets the influencers' intended message silently.

Moreover, all this is happening with the help of smart machines with deep learning abilities (Tan, 2018). Corinne Tan explored the regulatory factors of various social media platforms like YouTube, Wikipedia, Facebook, Twitter and Pinterest to identify the features enabling service providers to comply with their designs. Tan carried out an empirical study to find out social media behaviour.

As per the data analysts, till 2020, 67% of the world's population has been connected to a mobile phone, out of which 59% has internet access, and in the next 5 -10 years, every corner of the world will be connected. Corinne tried to establish the link between social media and artificially intelligent systems and gave a weird picture (Henning, 2021). For example, at the point of his research, he perpetuates that 15 % of the world's Humans are not operating 15 % of the world's Twitter accounts, and he calls them social bots – increasingly more intelligent than human beings. These replicated human behaviours, disseminated ideas, propagated immoral and illegal processes and were the election campaign machines. Seyedali and Dong propagate that machines are being designed to be automatically intelligent to optimise efforts and get multi-objectives (Mirjalili & Dong, 2020).

**Effects of Technology on Arab Spring**

Coincidently the process of change and political development that ignited during the "winters" of January 2011 got maturated during the 'spring' in Arab societies and became a symbol of hope (Brownlee et al., 2015). The domino effect during 'The Arab Spring' gained momentum due to the communication technology, AI tools and networking or connectivity that spread among various countries with the common denomination of political corruption, chronic unemployment, restricted freedom of expression, and discriminatory economic policies, among the rich and the poorer, while creating the convulsive effects in the Middle East within a short time (Balci & Gölcü, 2013).

The rage of change erupted from Tunisia, and its fire blazed Algeria, Egypt, Libya, Bahrain, Jordan, Yemen, Mauritania, Saudi Arabia, Oman, Syria, Iraq, Lebanon and Morocco. Tunisia, Jordon, Yemen and Egypt have seen regime change while Syria and Libya underwent civil wars. Kuwait, Sudan and Iraq observed the civil insurrections, and their leaders stepped down (Filiu, 2011). The leadership in Bahrain, Morocco and Oman subdued and took democratic steps. The government structures in the Arab world were closed and resistant to change. Technology has made ingresses in these structures silently. The authoritarian regimes felt the quakes of social media. However, elements of lawlessness, injustices, unemployment, poverty and serious demographic oppression caused fury among the afflicted educated youth. They took networking and telecommunication as their refuge, which ultimately proved to be a platform to vent their fury over despotic politicians for democratic demands. Networking, new communication tools and applications have devised new methods for political mobilisation (Balci & Gölcü, 2013). The introduction of AI tools and applications gave impetus to this existing technology, providing the roller coaster effect to the Arab Spring. AI tools and applications strengthened public sentiments by presenting frequently searched news or keeping the most viewed news at the top for its users. During the Arab Spring, traditional media became less significant than social networks like Facebook

and Twitter, which became more critical. Integrating social media with AI has evolved a new wave of cyber activism as it has defined a new virtual world, and it is on the way to structuring the new socio-cultural domain encompassing people beyond borders. This revolutionary transformation that underlined the "rebellion approach" during the Arab Spring has global dimensions. It connects the common goals of people and can hammer the ideas on the intending target audience. Thus AI played a crucial role in designing the Arab Spring in their socio-political scenarios (Balci & Gölcü, 2013).

**Role of Artificial Intelligence and Social Media in the Movement Arab Spring**

Public movements that started in the Middle East in 2011 used social media as a medium for organisation and communication. These movements are called the "Social Media Revolution", and the importance of SM and its impact are constantly being addressed. People used other SNs like Facebook and Twitter to organise gatherings and large-scale demonstrations. SNs are utilised for socialising, entertainment, and building social capital (Kamel, 2014).

According to Bostancı (2011), people who opposed the regimes and had similar views on Middle Eastern geography before the Arab Spring were unaware of the presence of the necessary huge support needed to change the regime and its degree of power. SNs have allowed the opposition forces to understand their comparative strength, organisation, and street mobilisation in such an environment. Twitter, Facebook, and SMS messages from mobile phones were utilised. In order to stop the incidents, the Egyptian government also quickly blocked the internet, shut down mobile phone companies, and attempted to regulate SM. It is important to understand how well such tools worked during the Arab Spring.

SNs provide freedom of behaviour for people excluded from their identities. Arabs who found refuge in the SM by hiding their faces can express their anger and dissatisfaction towards tyrannical governments daily (Kamel, 2014). On the other hand, Egypt was the nation where the impacts of SM were most apparent. The April 6 Movement in Egypt is an excellent example of the use of SM. A blog writer stated, "Even they had not thought the events would have such big conclusions after the invitations". , SM made substantial contributions to developing the intellectual foundation for the Arab Spring (Filiu, 2011). The ease with which traditional media may be manipulated during the Arab Spring movement raised interest in new media and SNs. (1984).

According to Neumann, people who live a social life out of fear of exclusion and isolation constantly analyse the prevalent ideas around them to see which ones are outdated. So long as they effectively express their opinions and they spread them. An Egyptian cyber activist said, "We used Facebook to determine the times of protests, Twitter to organise the protestors and YouTube to announce those protests to the world" is rather eye-catching. The number of new media users and SNs is less than 20% of the population. Although traditional media was extensively disseminated in the Middle East before and throughout the process of the Arab Spring (AlSayyad & Guvenc, 2015). However, 20% of Egyptians with internet access comprise the privileged and educated population. SNs organised the opponents and provided mass mobilisation against tyrants due to the Arab Spring, particularly at the beginning of 2011. SNs were the targets of political and social responses in every nation against abuses carried out locally. Social responses were given to the general public in a clear harmony due to SNs.

In conclusion, the new media environment known as SM preserved its functionality as a key communication tool in the Middle East, Northern Africa, or anywhere else globally. SM revolution results in ignoring important changes from the Middle East's perspective or global history by focusing on technological prowess. The results of a study by Darmoni and Poell (2011), who examined 100,000 tweets on the usage of SM during the Arab Spring, may also be used to make similar assessments. (Benkirane, 2012).

Moreover, the Middle East's political, economic, and social environment must also be studied to understand the impacts of SNs. Blaming just SM for events in Arab countries like Egypt and Tunisia serves no purpose other than to hide the true culprits. The effects of mass communication technologies, notably SNs, have only been seen at the negotiating level. In order to conclude the roles played by SM in the process, more research is required in light of future advancement and experiences. Future analyses will also determine the socioeconomic factors in the countries where the protest wave occurs, the geopolitical environment, internet and SM use rates, and the preferences and purposes of use.

## Methodology

### *Research Type*

Exploratory research is conducted to investigate a problem that needs to be properly defined (Lakshmi et al., 2023). Swedberg (2020) indicated that this type aims to develop hypotheses rather than test them. The data from exploratory studies tends to be qualitative. Exploratory research is not usually generalisable to the larger population (Žukauskas et al., 2018). The study employed exploratory research since it is flexible and can address research questions of all types (what, why, how). Exploratory research uses structured or standardised data-gathering processes, such as closed-ended surveys (Efthymiou et al., 2022). Romagnoli et al. (2022) specified that it helps the researcher to become acquainted with the problem or concept to be explored and maybe generate hypotheses. Exploratory research saves time and money (Iacovidou & Zorpas, 2022). Furthermore, it meets the researcher's demand for greater understanding, tests the feasibility of beginning a more in-depth investigation, and develops the research methods (Mainardes et al., 2010).

### *Research Approach*

Weideman and Hofmeyr (2020) described that inductive research develops theories or generalisations based on specific observations or data. It begins with collecting data and finding patterns to develop new hypotheses (Fleischmann & Ivens, 2019). Inductive reasoning is associated with qualitative research, where the objective is to describe aspects of unknown phenomena that are not always quantifiable (Sharma et al., 2022). The study employed an inductive research approach because it is a flexible method that allows researchers to change their research topic and techniques based on the collected data. Vuorinen (2015) indicated that inductive research is also employed to investigate cause-and-effect relationships. It depends on the premise that observations may be utilised to generalise a population (Hossain & Sarkar, 2021). This approach also draws findings by integrating observations with prior knowledge and experience (Du Plessis & Pretorius, 2019).

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***Research Choice***

Anas and Ishaq (2022) explained that qualitative research involves collecting and analysing non-numerical data to understand concepts, opinions, or experiences. It may be utilised to get in-depth insights into a topic or to produce new research ideas (Pathak et al., 2013). Norman et al. (2021) identified that data in qualitative research is gathered through interviews or focused group discussions. The study employed qualitative research choice since it is conducted to explore and develop ideas used in the current process, where the objective is to examine cause and effect relationships between variables (Aspers & Corte, 2019). It provides the researcher with a unique depth of knowledge that is difficult to obtain through a closed-question survey. It also aims to eliminate bias and error while identifying evidence that contradicts emerging hypotheses (Marshall & Rossman, 2014). This approach also comprehensively describes complex phenomena, undertaking preliminary investigations to develop theories and test hypotheses (Hennink & Kaiser, 2022).

**Conclusive Remarks**

AI provides SM with tools to help in information collecting and synchronisation of activities conducted across several platforms. SM platforms (such as Facebook, Instagram, YouTube, and Twitter) have been the most effective way to explain political change in the Arab world. AI helped in automatically bringing forth related videos and oppressive situations in which individuals spoke up for their rights. It significantly impacted people's thoughts and set the tone for the movement. Also, the governance systems in the Arab world were closed and difficult to change. SM focuses on the Arab revolutions, in which AI acted as a catalyst, helping protesters critically. AI connects people's common goals and can hammer ideas into the desired target audience. AI had an important role in the socio-political scenarios of the Arab Spring.

Similarly, the Arab Spring revolutions were mostly nonviolent, resulting in the demise of several powerful rulers. This is due, in part, to the ability of SM networks such as Facebook, Twitter, and YouTube to disseminate messages among local participants while also stimulating a worldwide response. The 'Arab Spring' gained momentum due to communication technologies, AI tools, and networking that expanded across various countries. AI also helped political groups quickly maintain the unity of approach through collective work. AI helps in the conjugation of shared political views and aims, as well as the dissemination of the socio-political narrative by addressing them. During the Arab Spring, the ease with which traditional media was controlled stimulated interest in new media and SNs. People who live in social situations with the dread of exclusion and isolation constantly analyse common thoughts around them to determine which are outdated. They communicate their opinions as long as they spread, yet, they suppress their ideas as long as their opinions obtain marginal aspects. SNs brought opponents under one roof, organised them, and provided mass mobilisation against tyrants. Every country's political and social responses to locally executed injustices were carried out on the SNs.

**Recommendations**

Firstly, SM played an important role in the Arab revolutions. SM should be utilised to convey awareness and news. However, more reliable communication channels should be built

because SM and the internet may support oppression as readily as they can help the pro-democracy movement. Countries should improve and promote access to digital technology, bridging the digital gap rather than limiting its usage to take advantage of certain rights and freedoms. Second, SM is effective in mass demonstrations and revolutions against repressive governments and regimes. People their government oppresses should use the SM to organise rallies against such oppression. In contrast, people of countries with sit-tight governments should use the SM to fight for the establishment of democracy. People whom their government denies access to mainstream media should turn to SM as a viable option, and government should be accessible to their people and listen to them in order to avoid citizens organising major protests through SM.

Furthermore, there is a need to recognise, strengthen, and implement revolutionary governance and political structures. SM usage was most obvious during the escalation phase of the protests, but it played a critical role during the planning phase, years before the revolution. In countries with little or no freedom of expression or organisation, SM power provides a low-risk virtual political arena. The involvement of political entrepreneurs in developing strategies for effective SM usage is critical to effectively utilising these tools throughout the revolution's initiation and escalation phases.

**Future research directions**

In order to effectively conceptualise and analyse the role of SM in the Arab Spring, multidisciplinary theoretical perspectives based on social movement theory (SMT) provide a strong alternative. Firstly, seeing collective action in Arab countries through the lens of SMT can shed more light on the social, cultural, and political roots of political advocacy and activism. It may also relate collective action to local and global developments marked by increased transnational relationships, as well as intersections between recognition, or identity politics, on the one hand, and redistribution, or social and economic justice politics, on the other. Second, social movements will employ media strategically in their actions 'to broaden the scope of conflict'. Due to the asymmetrical relationship between media and social movements (SMs), SMs must use alternative communication strategies and technologies to promote their efforts and interact with future constituencies.

Also, this theory will give a better approach for theorising and analysing the relationship between the organisational structure of political groups, access to resources, and framing strategies concerning technological innovation and the adoption of SM. Lastly, future research should employ a quantitative and qualitative approach to investigate the influence of SM and AI in the Arab Spring.

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