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Strengthening agricultural communities: The impact of social media on social capital

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Abstract

Social media has become a revolutionary tool for building social capital, changing the way communities and individuals interact and work together. These platforms help farmers in the farming sector overcome regional barriers by facilitating knowledge sharing, market access, and trust-building through digital networks. This study examines the idea of social capital, its components, and the ways in which social media, especially in agricultural settings, promotes its development. The study concludes with suggestions for sustainable development after highlighting the advantages, difficulties, and tactical methods of using social media to increase social capital through an analysis of case studies and effective practices.

Keywords: Digital networks, knowledge sharing, social capital, social media, sustainable development

Introduction

The relationship between community growth and social capital has been profoundly impacted by the rise of social media, which has shifted the way people build trust, collaborate, and share resources. Traditionally, social capital thrived through face-to-face interactions, where individuals could form bonds, exchange information, and engage in collective activities within localized settings. These interactions were often confined to specific geographic areas, creating trust and reciprocity within small, tight-knit communities. However, with the introduction of social media platforms like Facebook, WhatsApp, Twitter, and Instagram, the scope of social capital has expanded, allowing for real-time communication and collaboration across national and cultural borders.

The positive impact of social media on social capital is clear. It has facilitated global connectivity, enabling individuals and groups in remote or underserved communities to connect with resources, marketplaces, and knowledge. For instance, farmers can share best practices, seek advice, and access new markets or technologies, overcoming traditional barriers like distance and limited access to information. Social media also helps create networks that transcend geographic boundaries, allowing individuals from diverse backgrounds to collaborate on common causes, such as advocacy or addressing climate change. This is particularly significant for marginalized groups who previously lacked the means to engage on a

larger scale.

However, the digital revolution also presents challenges. Privacy concerns are a significant issue, with personal data being collected and sold by platforms, often without full user consent. Additionally, misinformation spreads rapidly across social media, leading to confusion and mistrust. In farming communities, for example, false information about agricultural practices or market trends can lead to financial losses or poor decision-making. The digital divide remains a pressing issue, as not all individuals have equal access to the internet, technology, or digital literacy, which can exacerbate existing inequalities. Finally, the anonymity of online interactions can erode trust, making it harder to build genuine, collaborative relationships.

To harness the potential of social media for community growth, these challenges must be addressed through improved digital literacy, regulation, and equitable access to technology.

Social Capital: Concept and Dimensions

1. Social Networks: Social networks refer to the connections among individuals or groups that allow for the sharing of resources, information, and support. These networks can be both formal (such as organizational networks) and informal (like personal relationships). The concept of social networks is foundational in social capital theory, particularly in the work which highlighted how these networks contribute

to social and cultural resources ^[4]. Further contributions to this were made by distinguishing between strong and weak ties, demonstrating how both types of connections play critical roles in accessing resources and opportunities ^[13].

2. **Trust and Reciprocity:** Trust is the foundation of cooperation, and reciprocity ensures that individuals or groups engage in mutual exchanges. Trust builds social cohesion, while reciprocity ensures that these exchanges are sustained over time. Trust facilitates effective collaboration and reduces transaction costs in social and economic activities ^[26]. He argued that societies with higher levels of trust are more likely to exhibit successful cooperation within communities. This idea of mutual exchange is also central to ^[8] work on social capital, which stresses the importance of norms of reciprocity for fostering cooperation.
3. **Strength of Ties:** The strength of ties refers to the quality and depth of connections within social networks. The distinction between *strong ties* (close relationships) and *weak ties* (acquaintances) was introduced ^[13]. Strong ties are crucial for bonding capital, which provides social support and emotional connections. On the other hand, weak ties are important for bridging capital, enabling individuals to connect with new groups and access diverse resources. The further expanded on this idea, showing how weak ties bridge different networks, facilitating access to new opportunities ^[18].
4. **Group Dynamics and Inclusion:** Group dynamics and inclusion refer to the internal cohesion and the degree to which individuals from diverse backgrounds are integrated into a community. Social cohesion is vital for community resilience, where inclusive practices help build trust and facilitate collaboration ^[27]. The societies with high levels of social capital tend to have stronger group dynamics, leading to more effective governance and collective action ^[11].

The concept of social capital can be divided into three types: bonding social capital, bridging social capital, and linking social capital. Each type plays a unique role in facilitating social interactions and accessing resources within different contexts.

1. Bonding Social Capital: Close-knit Relationships within Homogeneous Groups

Bonding social capital refers to the strong, close-knit relationships that exist within homogeneous groups, such as family, close friends, or local communities. These ties provide emotional support, trust, and a sense of belonging. Bonding social capital is particularly effective for ensuring mutual aid and solidarity within a group, but it can also be limiting as it may create social insularity or reinforce group homogeneity. Bonding social capital is the close connection that contribute to strong social support networks within small, intimate groups ^[27]. Bonding Social Capital refers to close relationships within homogeneous groups, such as family or close-knit communities. It fosters strong social ties but can limit broader social integration ^[36].

2. Bridging Social Capital: Connections Across Diverse

Social Groups

Bridging social capital is about fostering connections between individuals or groups from different social, cultural, or economic backgrounds. These ties are typically weaker than bonding ties but are crucial for linking people to external resources, knowledge, and opportunities. Bridging social capital is instrumental in fostering broader social integration and promoting diversity. It helps individuals or groups access new ideas, networks, and collaborations that they would not have within their immediate circle. Contrast studies between bonding and bridging social capital, highlighted that bridging ties are essential for creating diverse networks that span different groups and communities ^[27]. Bridging social capital helps individuals leverage connections across different networks to access resources and opportunities ^[18]. Bridging Social Capital connects individuals across diverse groups, helping them access new resources, ideas, and opportunities. It is crucial for community cohesion, fostering tolerance and innovation ^[7].

3. **Linking Social Capital:** Relationships Between Individuals/Groups and Institutions with Differing Power Dynamics Linking social capital refers to the connections between individuals or groups and institutions or organizations that have different levels of power, authority, or resources. These relationships are often key to accessing external support, such as financial resources, institutional support, or political leverage. Linking social capital is important in contexts where individuals or groups need to engage with external systems that are more powerful, such as government agencies, corporations, or large NGOs. Linking social capital can be differentiated from bonding and bridging, in connecting communities to higher-level institutions, such as government and business, for accessing resources and opportunities ^[36]. Linking social capital is important in providing communities with the necessary links to institutions that can facilitate access to broader economic and political resources ^[25]. Linking Social Capital involves connections across different social strata, particularly between individuals and powerful institutions. It is essential for accessing resources from higher-level structures, such as governments or large organizations ^[9].

Social Media and Social Capital in Agriculture

Social media platforms facilitate the creation of social capital in agriculture by enabling farmers to exchange knowledge, foster community, access markets, and solve problems collaboratively.

1. **Knowledge Exchange:** Social media accelerates the sharing of agricultural practices and market trends among farmers. For example, Twitter has been shown to enable knowledge exchange on sustainable soil management, enhancing adoption of practices through user-driven content ^[21].
2. **Community Building:** Platforms like Facebook Groups and WhatsApp bring farmers together, fostering collaboration and emotional support. Research highlights that virtual communities reduce social isolation and strengthen networks, essential for resilience in rural areas ^[6].
3. **Market Access:** Tools such as India's eNAM platform

demonstrate how online networks reduce reliance on intermediaries by directly linking farmers with buyers, leading to fairer pricing ^[29].

- 4. Problem Solving:** Real-time communication through apps like WhatsApp enables farmers to address challenges, such as pest infestations, collaboratively. In Kenya, this approach prevented significant crop losses by rapidly mobilizing knowledge ^[15].

Digital Green: Video-based peer learning has enhanced knowledge adoption and productivity. For example, farmers in India increased crop yields by 12% and reduced input costs by adopting techniques demonstrated in localized videos ^[3]. eNAM: India's National Agriculture Market connects farmers with buyers, ensuring fair pricing and reduced marketing costs. As of 2023, over 1.7 crore farmers are registered on the platform, with an average income increase of 10-15% ^[30].

#FarmersOfIndia Campaign: Social media advocacy highlights farmer challenges and promotes policy change. This campaign has led to increased awareness and policy discussions, addressing key agricultural issues ^[28]. WhatsApp Groups: Farmers use these for real-time advice on crop diseases and market updates. In Kenya, a WhatsApp group helped farmers combat Fall Armyworm infestations, saving significant crop losses ^[32].

Benefits

- 1. Enhanced Access to Information and Resources:** Farmers gain real-time updates on weather conditions, pest management, and market prices. Platforms like Twitter and WhatsApp Groups provide timely advice and improve decision-making ^[21].
- 2. Strengthened Networks and Increased Trust:** Digital platforms foster trust through consistent communication. For instance, Facebook Groups create virtual communities where farmers exchange advice and build long-term relationships ^[33].
- 3. Broader Market Reach and Economic Empowerment:** Social media reduces dependency on intermediaries. Platforms like eNAM enable farmers to access broader markets, increasing their income by 10-15% ^[2].
- 4. Democratized Knowledge Sharing:** Knowledge is shared across diverse groups, breaking geographical barriers. Initiatives like Digital Green enable peer-to-peer learning through localized video content ^[5].

Challenges

- 1. Digital Divide:** Limited access to smartphones and internet connectivity in rural areas restricts participation. Studies have highlighted significant disparities in digital adoption among smallholder farmers ^[10].
- 2. Misinformation:** Misinformation spreads quickly on social media, leading to poor decisions. This is particularly critical in cases where farmers adopt harmful practices based on inaccurate data shared online ^[24].
- 3. Privacy Concerns:** Farmers may avoid sharing sensitive information, such as land details or financial

status, due to fear of data misuse. This reluctance can limit collaboration and transparency ^[16].

- 4. Engagement Inequality:** Not all users actively contribute to discussions. Studies show that active participation is often limited to a small group, while others remain passive observers ^[15].

To maximize social capital through strategic use of social media, it is essential to focus on several key approaches:

1. Building Trust and Reciprocity

- Encouraging Transparency:** Platforms should promote ethical practices that foster trust, which is essential for cooperation and long-term engagement in online communities. Transparency about data usage and clear community guidelines can help build this trust ^[22].
- Promoting Reciprocal Exchanges:** Platforms can incentivize users to engage in reciprocal actions like sharing content, providing feedback, or supporting others in their networks. This mutual support strengthens the social fabric (Kilonzi and Ota, 2019).

2. Fostering Inclusive Networks

- Inclusive Platform Design:** Platforms must cater to diverse user groups, ensuring all have access to opportunities for connection and collaboration. This inclusivity helps bridge digital divides and enables a broader exchange of ideas across different social groups ^[20].
- Bonding and Bridging Capital:** Platforms should aim to build both bonding (close-knit) and bridging (across diverse communities) capital, enabling users to strengthen their local ties while also expanding their networks globally ^[1].

3. Enhancing Digital Literacy

- Training Users:** Educating users, such as farmers, on how to navigate digital platforms effectively will enhance their ability to access information and engage with others. This can be done through workshops or online resources that focus on digital tools and critical thinking (12).
- Identifying Credible Information:** Teaching users how to identify reliable sources online is essential to ensure the quality of information shared across digital networks (Tuzahra, 2021).

4. Leveraging Technology for Engagement

- Interactive Tools:** Integrating interactive elements like live webinars and Q&A sessions can engage users more effectively, helping build trust and strengthen relationships in virtual communities ^[35].
- Mobile Accessibility:** Given that many rural communities may have limited internet access, ensuring mobile-friendly platforms are available is critical for fostering digital social capital ^[31].

5. Monitoring and Evaluation

- Tracking Progress:** Regularly tracking social capital metrics, such as network growth, user engagement, and trust levels, helps to refine strategies and ensure that the

platform is meeting the needs of its users ^[23].

- **Adapting to Trends:** Social media strategies should remain flexible, adapting based on user feedback and emerging trends to keep engagement high and the platform relevant ^[17].

Conclusion

By employing these strategies, social media can become a powerful tool for building and sustaining social capital, benefiting individuals and communities alike. The relationship between digital skills and generalized trust was highlighted emphasizing the role of technology in fostering virtual trust and social networks. In particular, their work explored how digital platforms can promote trust-building through online interactions, especially when physical proximity is lacking ^[14]. Engagement in virtual social networking was often accompanied by a high level of loneliness. Users who experience social anxiety in the real world tend to feel more lonely, and this loneliness was exacerbated by presenting an unreal version of oneself and having distrust in virtual social networking ^[19]. The insights into the dynamics of online trust provided information on how virtual communities form and how trust can be cultivated through repeated digital exchanges and shared norms ^[34].

Social media has become an essential tool for fostering social capital, particularly within the agricultural sector. By enabling knowledge sharing, market access, and community building, digital platforms empower farmers to overcome traditional barriers such as geographic isolation and limited resources. Social networks facilitate stronger connections, build trust, and promote collaboration, which are critical for sustainable agricultural development.

However, challenges such as misinformation, privacy concerns, and the digital divide must be addressed to fully harness social media's potential. Strategies that emphasize digital literacy, inclusivity, trust-building, and equitable access to technology are vital for overcoming these obstacles. By adopting these approaches, social media can play a transformative role in enhancing social capital, fostering resilience in farming communities, and contributing to broader sustainable development goals.

Future scope of the study

The study spotlights on the transformative role of social media in building social capital within farming communities. The future scope can include a study on the long term impact of social media on economic outcomes, role of specific platforms and technologies in addressing digital divide, promoting sustainable agricultural practices, methods to counteract misinformation and also comparative studies across different regions or agricultural sectors to understand the conceptual factors affecting role of social media in social capital development.

Conflict of interest

The authors declare that there is no conflict of interest regarding publication of this manuscript.

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