THE INTERSECTION OF SOCIAL MARKETING, SOCIAL MEDIA, AI, AND FORESTRY:

Opportunities for New Impacts and Better Outcomes

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INTRODUCTION

Social marketing is rooted in traditional marketing techniques and applies these principles to social issues in an effort to influence positive behavioral change. Social marketing campaigns are able to effectively target specific audiences, determine existing behaviors and barriers, and implement effective messaging to create change in behavior. This paper explores the application of social marketing techniques to forestry, including conservation efforts with family forest landowners. Additionally, quickly developing technologies like social media and artificial intelligence (AI) can further the impacts of social marketing by fostering an interactive dialogue and community between the audience and the marketer and accelerated learning. This analysis highlights the future possibilities for social marketing and social media to advance forestry conservation outreach and landowner and community behavioral change efforts. Social marketing has previously been researched by Dovetail Partners, and this paper is a continuation and update to the earlier research.[1]

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1 An Introduction to Social Marketing: Potential Applications for Forestry. 2006. Dovetail Partners. Available at:
https://www.dovetailinc.org/upload/tmp/1586487231.pdf

BACKGROUND

Social marketing is the application of commercial marketing techniques to influence positive behavioral change.[1] Historically, social marketing has been extremely successful when used to influence and improve public health and safety behaviors.[2] While traditional, commercial marketing campaigns are focused on selling products to consumers, social marketing programs are focused on changing the attitudes and behaviors of people.[3] Similarly to traditional marketing, social marketing uses the 4 P's, which are product, price, promotion, and place.[3] However, social marketing also implements an additional P representing policy.[1] For a social marketing campaign, the *product* is the desired behavior, the *price* is the cost or barriers to the behavior, the *promotion* of a behavior takes place through social marketing messages that address the barriers, the *place* is what channels the campaign uses to communicate with the audience, and *policy* is used to incentivise and support an action related to the desired behavior.[1] Understanding and clearly defining the P's of a social marketing campaign are essential to the effectiveness of the program.

The 5 P's of Social Marketing:
1. Product: Desired Behavior
2. Price: Cost or Barriers to the Behavior
3. Promotion: Messaging to Address Barriers
4. Place: Channels Used to Reach the Audience
5. Policy: Incentives and Support for the Behavior

Additionally, social marketing requires the identification of a target audience for the campaign and researching the existing behaviors and motivations of the audience.[2] Prior to the implementation of social marketing messaging, it is important to clearly define the desired behaviors for the audience.[1] If the desired goal of a social marketing program is unclear, the audience will interpret the messaging unclearly, and the results will differ from the ideal outcome. Another concept in traditional marketing that can be applied to social marketing is the idea of exchange.[4] In social marketing, the audience is being asked to change their behavioral habits. It is necessary for the audience to understand that this sacrifice is in exchange for a benefit in order to motivate the audience to change at all. Taking these concepts into consideration when developing a social marketing program will improve the success and effectiveness of the marketing.

[2] Social Marketing Works: Results from Ten Years of Tools for Engaging Landowners Effectively Trainings. 2023. Journal of Forestry. Available at: https://academic.oup.com/jof/article/121/1/84/6754202

[3] Understanding and Reaching Family Forest Owners: Lessons from Social Marketing Research. 2007. Journal of Forestry. Available at: https://www.nrs.fs.usda.gov/pubs/jrnl/2007/nrs_2007_butler_001.pdf

[4] Burchell, K., Rettie, R. and Patel, K. (2013), Marketing social norms: Social marketing and the 'social norm approach'. J. Consumer Behav., 12: 1-9. https://doi-org.ezproxy.neu.edu/10.1002/cb.1395

SOCIAL MARKETING APPLICATIONS TO FORESTRY

Communicating with forest landowners about conservation efforts and best practices is one of the main tasks forestry and conservation professionals must engage in. The focus of conservation efforts for forestry land in the United States is usually government agencies, corporations, or partnerships with nonprofits, and many conservation challenges apply to family owned forest land. Forestry conservation strategies require the engagement and cooperation of landowners, as families in the lower 48 States of the United States own around 40% of forested land.[2] However, while conservation professionals are generally well-trained and experienced in many aspects of land stewardship, they may lack communications or marketing training. Without these skills, it can be difficult to communicate effectively with forest landowners and other audiences, and organizations may have limited success with growing programs that rely on the voluntary participation of landowners. Traditionally, conservation programs focus on education and spreading information to forest owners, which does not directly address motivations, resources, or barriers for landowner behavior. Information and education alone is not effective for creating new behaviors. Just making information available, such as through websites, brochures, or workshops, does not do enough to connect that information with specific groups or "meet them where they are" in their land management interests and needs that can be highly variable and specific. Social marketing techniques can be effective tools for conservation professionals to better engage landowners and influence behavior. Social marketing has traditionally been used to promote behaviors for public health and safety, but has been successfully applied to other sustainability focused efforts, highlighting the possibility for social marketing to be effective in forestry.[4]

Audience Identification - A Key Step in a Social Marketing Strategy

An important step in any social marketing strategy is identifying the desired audience of a campaign. This remains especially true for forest conservation programs. By identifying and understanding the audience receiving the information, conservationists can tailor their messages to the needs, motivations, and behaviors of their target audience. In the absence of social marketing practices, forest conservation programs oftentimes are only regularly communicating with or reaching an audience that is already interested in conservation or engaging in conservation practices.[3] The message rarely reaches those outside of the forestry community, requiring a better understanding of forest landowners in order to create effective outreach, programs, and change. Social marketing practices can assist forest conservationists in their attempt to reach the variety of landowners and develop effective communication with their target audience.

A study conducted by Butler, et al. (2007) focused on grouping family forest owners based on their levels of engagement and their reasons for owning forested land. The study grouped the landowners into four groups: woodland retreat, working the land, supplemental income, and ready to sell owners.[3] Landowners were placed into each group based on their responses to a survey about their reasonings and motivations for owning forested land.

After grouping the landowners based on motivation, the researchers created a prime prospect analysis of the landowners based on their responses to a survey.[3] This analysis groups the landowners into four categories based on their levels of engagement and attitudes toward stewardship: model owners, potential defectors, prime prospects, and write-offs (Figure 1).[3]

Figure 1. Grouping of Landowners Based on Motivation
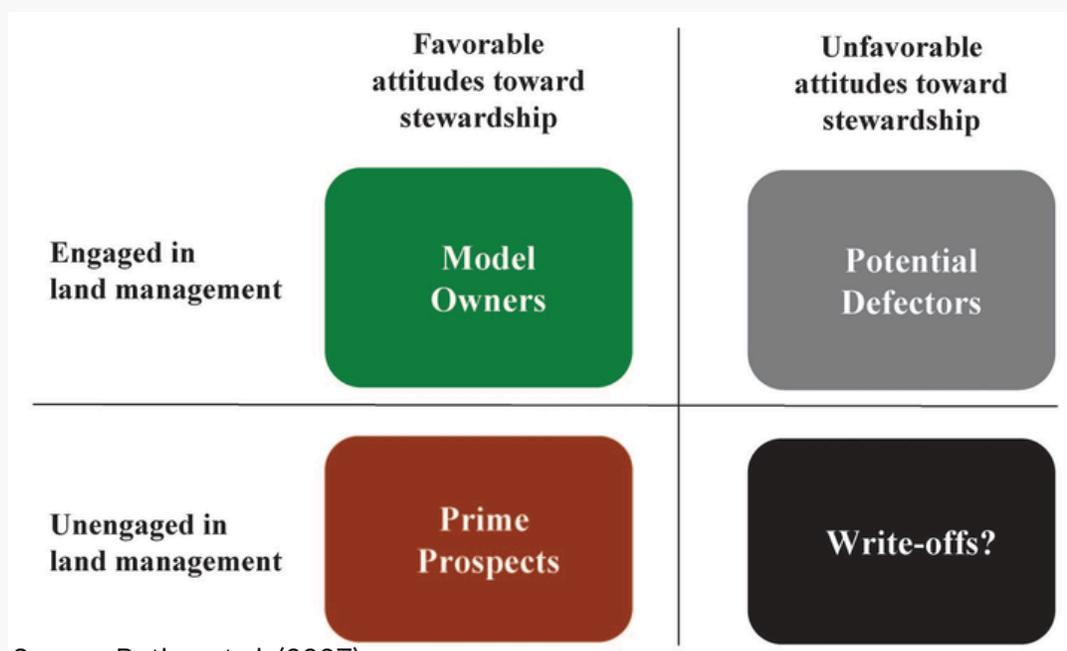
Source: Butler, et al. (2007).

Based on their grouping, landowner level of engagement is an indicator of the owner's participation in conservation best practices. For example, *model owners* are engaged in land management and have favorable attitudes toward conservation, *potential defectors* are engaged in land management and have negative attitudes toward conservation, while *prime prospects* are not engaged in land management and have favorable attitudes toward conservation, and *write-offs* are not engaged in land management and have negative attitudes toward conservation (Figure 1).[3] Based on this analysis of landowner motivations, engagement and attitudes, conservationists can better utilize their time, resources, and funding by using social marketing to target the groups that have the most potential to engage in conservation strategies. For example, a social marketing perspective would not advise the conservationists to focus on changing the behavior of the model owner group, as they are already engaged in land management and have positive attitudes about it. Instead, using social marketing tools, a conservation group would have better success targeting the prime prospects, as they are interested in conservation but require assistance overcoming barriers to action.

This prime prospect analysis combined with the previous grouping of landowners into four reason based categories creates a simple, accessible way for conservationists to get an understanding of their audience and determine the most efficient strategies through social marketing practices. The goal is to help forestry and conservation professionals effectively identify their audience, communicate with their target audience, and influence their behaviors.[3] It is necessary for conservation programs to recognize and attempt to understand the diversity of forest landowners. As demonstrated by the study by Butler, et al. (2007), social marketing can be an effective tool that can assist conservationists during certain steps in their outreach efforts, such as identifying and communicating with the target audience. The insights of this study and the resulting analysis support the further development of the Tools for Engaging Landowners Effectively (TELE) program that has been applied around the country to efficiently help conservationists identify the goals and motivations of landowners based on their categorization into the defined groups.

Use and Impacts of the Tools for Engaging Landowners Effectively (TELE) Program

The Tools for Engaging Landowners Effectively (TELE) program focuses on teaching conservation and forestry professionals effective social marketing techniques for influencing forest landowners to engage in conservation behavior.[2] The TELE program uses traditional social marketing strategies in combination with landowner data to improve forestry outreach. By applying social marketing techniques to promote behavior changes in forest landowners, the TELE program develops a new approach to forestry conservation strategies.

Similarly to any other social marketing campaign, a forestry-based social marketing program requires identifying a specific audience, research to understand their existing behaviors, motivations, and barriers, and lastly, developing a program to address these barriers and influence behavior.[2] Following an introduction to social marketing, the study by Hollins, Chawla, and Butler (2023) describes the steps of the TELE program, stating, "participants were guided to (1) set their landscape goals and communication objectives, (2) select their core audience segment, (3) compile information to understand that audience segment, (4) develop messages according to that understanding, (5) choose channels and materials for message dissemination, and (6) develop plans for implementation, evaluation, and adaptation".

The study conducted by Hollins, Chawla, and Butler (2023) analyzes the success of the TELE program. Through their surveys of forestry and conservation professionals, they found that those who were trained in social marketing techniques found the program to be useful for their conservation projects.[2] Even though trainees did not feel like they were experts on social marketing, they still found the techniques useful and that even small changes made an impact.[2] After using the TELE program, participants were able to understand their audience's perspectives and more clearly define the desired behaviors and landowner actions.

The Tools for Engaging Landowners Effectively (TELE) program has more than a dozen examples of successful forestry-based social marketing campaigns from across the United States.[5] A local case study in Minnesota on applied TELE social marketing techniques to engage hunters to improve sustainable logging is summarized below.[6]

The project by the group in Minnesota (see sidebar callout) is an example of gaining audience knowledge and more successfully engaging landowners through the use of social marketing techniques. This case study, along with the number of other examples found at the TELE website can be used to inform future projects and conservation efforts.

The successes seen in TELE case studies and the benefits voiced by conservation professionals makes a case for the widespread use of social marketing practices in forest landowner outreach programs. However, there still remains room for improvement, as many conservationists can be hesitant to embrace social marketing techniques for forestry applications and organizations may also lack the funding and time to invest in social marketing programs and education.

5 Tools for Engaging Landowners Effectively: TELE Examples. Available at: https://www.engaginglandowners.org/resources/tools-examples
6 Tools for Engaging Landowners Effectively: Engaging with Hunters. 2019. Available at: https://www.engaginglandowners.org/resources/engaging-hunters

Case Study:
Minnesota Hunter Engagement

A partnership group of both private and public organizations in Minnesota utilized the TELE approach and worked together to improve logging practices and wildlife habitat in Northern Minnesota.[6] The organizing group identified 140 forest landowners in the region, the majority of whom lived near the Twin Cities and primarily visited and used the land for hunting.[6] They identified their audience and created a list of motivations, behaviors, and barriers to influencing the behavior of the landowners. The organizing group learned that the landowners would be interested in improving their land for hunting, lived away from their land, were more likely to attend an event closer to their primary residence, and were historically apprehensive about timber harvesting.[6]

Based on this more detailed understanding of their audience, the organizers focused their program and outreach efforts on how timber harvesting can improve hunting on forested land through improved wildlife habitat. The organizers developed two postcards (Figure 2) they sent to the forest landowners with the message about improving hunting through timber best management practices.[6]

The differences between the two postcards (Figure 2) are subtle, but may have impacted the final results of the number of forest landowners attending a forestry conservation meeting. Postcard 1 focused on improving wildlife habitat, while Postcard 2 focused on improving future hunting through management for deer habitat. Additionally, Postcard 1 had a more educational tone due to the location and sponsor on the postcard, which was the University of Minnesota and the Minnesota Department of Natural Resources, Division of Forestry. On the other hand, the tone of Postcard 2 was more social and lighthearted, as the attendees would meet at a brewery or outdoor sports store and the sponsor was the MN Deer Hunters Association. By better addressing the motivations of the audience and using accessible language (i.e., avoiding technical jargon), Postcard 2 resulted in 142 registrations, while Postcard 1 resulted in 29 registrations. At the events that were promoted by the postcards, the forestry organization groups presented about sustainable logging practices and how certain conservation strategies could improve wildlife habitat, which in turn improves hunting opportunities.[6]

Figure 2. Grouping of Landowners Based on Motivation

Postcard 1

Improve your forest.

Improve your hunt.

INFORMATION SESS

Have you noticed wildlife decline in your woods?

Learn how timber harvesting can improve habitat for deer, grouse and other wildlife at an information session with experts from the U of MN, MN DNR and MDHA.

University of Minnesota
Continuing Education & Conference Center
Wednesday, December 6, 2017
6:00 - 9:00 pm
$20 registration includes appetizers

Learn more and register at
harvest4habitat.eventbrite.com

Division of Forestry
MN DNR Region 3 HQ
1200 Warner Rd.
St. Paul, MN 55106

Postcard 2

BRING HOME A TROPHY BUCK

Deer Habitat Workshop

Want to see more deer and grouse in your woods? Join other deer hunters to learn how harvesting trees can improve your future hunts. Connect with professionals who can get your harvest done in a way that leaves your woods better than before.

$20 registration per person includes food and raffle prize entry

Learn more and register for a workshop at
trophybucks.eventbrite.com

Space is limited!

Monday, April 8
6–9:30 p.m.
Surly Brewery in
Minneapolis

Tuesday, April 9
5:30–8:30 p.m.
Cabela's in Rogers

Presentations from Minnesota Deer Hunters Association and Minnesota Department of Natural Resources.

Minnesota Deer Hunters Association
460 Peterson Rd.
Grand Rapids, MN 55744

Source: Tools for Engaging Landowners Effectively: Engaging with Hunters. 2019.
Available at: https://www.engaginglandowners.org/resources/engaging-hunters

MODERN SOCIAL MARKETING AND SOCIAL MEDIA

Social media has become a part of everyday life. Many people wake up to social media, check social media for news updates, search for information on social media, and use social media to create dialogue and community among users. Recent research found over 80% of US adults have used YouTube and nearly 70% utilize Facebook, the two most common platforms used in the United States.[7] Social media has grown to allow users to create, communicate, and share content with one another. This presents the opportunity for companies and organizations to utilize social media as a social marketing tool, not just another traditional, commercial marketing tool for promotion of a product.

Social media is more nuanced than traditional communication channels for organizations to use for marketing, as the users can be engaged in communication and respond directly to organizations with their opinions.[8] In their article, Thackeray, Neiger, and Keller (2012) describe how "viewing social media as only another output channel perpetuates the top-down communication approach and ignores the communication that occurs between individuals, independent of the organization". By understanding social media and effectively applying social marketing techniques to a different platform, organizations can create deeper relationships with their audience and encourage desired behavior changes.

Social media can be a tool to increase user and consumer engagement. The mutual communication between organizations and social media users creates communities between the marketer and the user, as well as facilitates increasing user engagement. Through this interactive communication on social media platforms, organizations can establish brand communities with their audience. Research indicates that social media is a more effective tool for building relationships with the audience than traditional media channels.[9] This close relationship between the audience and an organization can strongly influence and change the behavior of the audience.[9]

7 Americans' Social Media Use. 2024. Pew Research Center. Available at: https://www.pewresearch.org/internet/2024/01/31/americans-social-media-use/

8 Integrating Social Media and Social Marketing: A Four-step Process. 2012. Health Promotion Practice. Available at: https://journals.sagepub.com/doi/full/10.1177/1524839911432009

9 Using Social Media to Create Engagement: a Social Marketing Review. 2019. Journal of Social Marketing. Available at: https://www.emerald.com/insight/content/doi/10.1108/jsocm-05-2018-0046/full/html

Social media as a tool in social marketing programs can benefit both the organization and the audience. For example, social media has been used to engage the audience to participate in emergency preparedness for public health and safety issues.[9] The study by Shawky, et al. (2019) in Australia found that 91% of social marketing programs that were surveyed found social media to positively impact the success of their program. However, social media is still largely being used as a traditional marketing channel, rather than an opportunity for social marketing. Organizations continue to post information that is not directly relevant to their audience or based on specific knowledge of the audience and a targeted outcome, resulting in a one-way channel of communication.[9] This limited approach to social media decreases the connection between the audience and the organization. Social media has the potential to be a highly effective social marketing tool, but only if strategies and messages are properly implemented.

As discussed previously, traditional social marketing programs require research about and communication with the audience. The same requirement is true for combining social media and social marketing. Through the accessibility of social media the audience can easily become active participants in the social marketing process, rather than just a recipient of information.[8] In their article, Thackeray, Neiger, and Keller (2012) outline four essential steps to incorporate social media into a social marketing campaign effectively. The first step is to describe the audience.[8] This requires defining the target audience, determining what social media the audience uses, and how they use their social media.[8] The second step is to determine the purposes of wanting to engage with the audience.[8] The purposes may include receiving and implementing feedback from the audience, encouraging the audience to discuss behavior changes with their community and support one another, or utilizing supporters as advocates for behavior changes.[8] The third step is to outline an engagement strategy that accomplishes the purposes described in the previous step.[8] Lastly, the fourth step is to choose the technology and social media platform that will be most effective for the social marketing campaign.

4 Steps to Using Social Media in Social Marketing
1. Describe the Audience
2. Determine the Purpose
3. Outline an Engagement Strategy
4. Choose the Technology and Platform

Source: Thackeray, Neiger, and Keller (2012)

Similarly to any other marketing campaign, the social media audience will engage in a behavior if it benefits themselves. Through social media, an organization has a unique opportunity to bond directly with their target audience and demonstrate why a relationship with the organization will be mutually beneficial.[8] Social media presents a unique opportunity for social marketing campaigns through direct engagement and communication with the audience, but only if an organization can develop productive strategies.

FUTURE CONSIDERATIONS

Forestry and Social Media

While the current literature about social media and social marketing focuses on public health and safety programs, there is still reason to believe that social media could be an effective social marketing tool for forestry and conservation efforts. Research by the US Forest Service has examined ways to incorporate social media into the forest products industry.[10] The research identified the many opportunities for audience engagement, including customers and others throughout the supply chain, and also the risks of missing new markets if a social media strategy is not embraced. Additional research found that social media is more commonly being used by larger companies in the forest products sector, but because of its cost-effectiveness, social media may offer additional benefits to smaller companies.[11] To complement these research insights, there are also research findings available that examine consumer knowledge and attitudes of the Millennial generation towards wood which can help in better audience understanding.[12]

Two examples of social media efforts in the forest and wood products sector that aren't company specific are #forestproud and the Working Forests Initiative (WFI). The work of #forestproud has been underway for more than five years and is a program by the Society of American Foresters. Their communications include engagement through forestry professionals on social media and targeted strategies to engage with forests and wood products as climate solutions.[13] The WFI started in 2022 and has produced a number of videos and other information that illustrates the focus of the forest sector on tree planting and growth as a key component of working forest sustainability.[14] The online audience for the forest and wood products sector is very large. Some social media accounts that address information about trees have 100s of thousands of audience members.[15]

Social media is a highly transferable social marketing tool to a forestry focus, so long as careful strategies are implemented. The complexity of social media may make it difficult initially for forestry and conservation professionals who are unfamiliar with the social media platforms. Similarly to introducing social marketing to forestry, time, training, and dedication are required to educate professionals about the effectiveness of social media as a social marketing tool and develop the necessary skill sets.

10 Social Networking: Finding ways to incorporate social media into the forest products industry. 2010. USDA Forest Service. Available at: https://www.fs.usda.gov/nrs/pubs/jrnl/2010/nrs_2010_montague_001.pdf

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13 Seeing the Forest for the Tweets: Meet forest professionals who call social media home. #forestproud. Available at: https://forestproud.org/2022/08/31/seeing-forest-for-the-tweets/

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15 A Good Influence: Social Media and Urban Forestry. 2023. PlanITGeo. Available at: https://planitgeo.com/library/a-good-influence-social-media-and-urban-forestry/

Artificial Intelligence and Data Tracking.

Artificial intelligence (AI) and data tracking are new technologies that are rapidly developing and have the potential to impact social marketing strategies for forestry conservation. AI is being used in a variety of forestry and conservation programs, such as tracking elephants in rainforests,[16] expanding the understanding of global forest resources,[17] researching forest growth and modeling,[18] and management operations and planning.[19] AI can be used in forestry related education and training, product sales and marketing, and in monitoring specific management outcomes, such as carbon sequestration. The use of AI benefits from the expanding availability of open-access forest resource data and high-quality satellite imaging. AI has the ability to accelerate learning by more efficiently and effectively analyzing large datasets and volumes of information.

For social marketing purposes, AI can assist with analysis of landowner datasets about demographics and behaviors to better define the social marketing methods and to develop more effective forestry conservation messages. Data tracking also has the ability to provide even more detailed information about the target audience. Data tracking allows conservationists to monitor the behaviors and geographical data of the audience. By integrating AI and data-tracking technologies, conservationists could adapt outreach strategies to reflect real-time changes in landowner behavior and external factors, increasing the effectiveness of the engagement efforts. As these technologies become more widely used there are concerns regarding the ethics of these technologies, especially in regard to data security and privacy.

16 IBM and WWF Collaborate to Save Elephants with Artificial Intelligence. 2025. Triple Pundit. Available at:
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CONCLUSION

Social marketing provides a unique approach to advancing forestry conservation efforts, especially when designed for diverse forest landowner populations, motivations, and behaviors. By incorporating social marketing tools like the TELE program and insights from successful case studies, conservationists can develop a targeted and effective outreach strategy. The integration of modern technology, such as social media and AI, provides additional, unique opportunities for communication, fostering engagement, and building meaningful connections with landowners and additional defined audiences. Forestry conservation professionals face evolving challenges with the scale and diversity of conservation needs that require audience engagement in order to realize effective desired outcomes. Social marketing remains a proven tool with expanded opportunities to influence action and grow sustainable practices across key audiences.

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