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Permission-based Marketing: Using GIS to Create Information Visualizations for Nonprofit Organizations.

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ABSTRACT

Using GIS and data from small rural/local nonprofits, we explore how Universities and community partners can engage with nonprofits to explore new marketing and community engagement methods. In the preliminary research and implementation stages, we focus on how to design a collaborative culture between students, community members, nonprofits, and Universities. Further, we find that this is a multidisciplinary endeavor that requires the utilization of GIS, Marketing, and student organizations to engage the nonprofit sector and the local community.

KEYWORDS

Nonprofit, GIS, Community Engagement, Marketing

INTRODUCTION

National Center for Charitable Statistics (NCCS) reported that more than 1.5 million nonprofit organizations are registered in the USA (Joowon and Cui, 2020). According to the Bureau of Labor Statistics, U.S. Department of Labor, nonprofit organizations accounted for 12.3 million jobs in 2016; Nonprofit organizations can range from multi-billion-dollar hospitals and institutions such as Johns Hopkins to church-basement food pantries.

According to the 2019 Nonprofit Communications Trends Report, the nonprofit sector relies heavily on four marketing strategies: permission-based marketing, content marketing, event and experience marketing, and relationship marketing. This article is going to focus on permission-based marketing. Permission-based marketing refers to sharing content with consumers, participants, and donors who have signed up, subscribed, or agreed to join a group or list to receive information or notices, thus reaching out to more potential customers.

This article demonstrates how GIS can assist nonprofit organizations with visualized information. We begin with a description of GIS technology and investigate the marketing value that GIS created to help achieve the goals of nonprofit organizations, such as raising awareness and recruiting and engaging participants and the community.

LITERATURE REVIEW AND HYPOTHESES

Using GIS to create Information Visualization

GIS is a computer-based technology for “capturing, storing, checking, analysis, manipulating, and displaying spatial data with a wide range of geographic information, including demographic, socio-economic, housing, crime, environmental, and land-use data” (Elwood & Leitner, 2003, p. 140). GIS technology in nonprofits provides a great range and a variety of data that can display and query the information seamlessly in visual maps that capture important neighborhood data or other geographic conditions/information. For example, nonprofits and community partners might want to know where police, fire, and emergency medical care service units are located; where the locations for poverty households that need help with food, utility, or medication bills are; and where the location of people needing help with daycare and school supplies exists. Moreover, GIS can assist in making maps to distinguish the low and high risks of health conditions, such as the COVID-19 pandemic, criminal victimization in an area, and the recommended traffic routes and estimated times to aid service vehicles en route to calls.

Using GIS Visualization in Nonprofit Organizations on Permission-based Marketing

Permission-based marketing refers to sharing information with consumers, participants, and donors who have signed up, subscribed or agreed in advance to join the group or follow a social media account to receive content information, promotion reminders, or notices (Simpson, 2015). One of the goals of nonprofit marketing is to endorse the values and causes to draw the interest of supporters and prospective donors; the other goal is to reach out to potential customers, promote an event, customer intervention, or raise awareness.

To address the challenge of budget constraints, societal impact, and an increasingly visual society demand (Chang 2007), nonprofit organizations must evaluate their service performance and the impact of their services, events, and activities. Residents are often unaware of programs that benefit their areas, such as knowing about the local food bank's location and give-and-take programs. Students can volunteer to help create and distribute engaging marketing tools to make the public more aware of the services available. Based on the literature above and the author's experience in the field, we suggest nonprofit organizations should use GIS to provide data visualization to improve their efficiency and outreach. Therefore, we aim to examine the hypotheses below:

H1: Using GIS to provide data visualization can reach more customers.

H2: Using GIS to create information visualization will help endorse the values and causes of the nonprofit organization and draw the interest of supporters and prospective donors.

H3: Using GIS to create information visualization will help promote events and customer engagement.

METHODOLOGY

In this study, we focused on combining qualitative and quantitative approaches, a mixed methodology, to explore the possible solutions for nonprofits. We engaged with students in the research process and designed a student project as a case study. To assess the current conditions of a regional nonprofit's engagement with clients and the community, we follow a participant observation approach to gather data on the current state of the nonprofits. Gathering data through participant observations allows the researchers to examine how nonprofits are currently engaging with clients and donors, how they are promoting their services, and how they are engaging with new methods and techniques to help with their marketing.

Using data from the U.S. Census Bureau and ESRI's ArcGIS Online platform, continuing demographic information, and economic data, we explore the characteristics of the population of a local nonprofit. The data from the census provides geodemographic details on the individuals in the area. The data was collected from the 2019 American Community Survey and the 2017 Economic Census. Entering the data into the GIS provides information on a visual map of who needs help from the nonprofit.

DISCUSSION

The link between nonprofits, marketing, and GIS is a new a growing endeavor. Nonprofits are not set to work beyond their systems of permission-based marketing, and they are not prepared to engage with new technologies to help with marketing strategies and the development of a client base for both users of their services and donors. According to current trends in GIS and data visualization, the United States government provides free classes and data to leaders of nonprofits to use the U.S. census data to evaluate their clientele. We found that using a service-learning approach in the classroom to involve students in the project enhances the nonprofits' ability to take advantage of new technology and develop visualizations to reach more customers.

Students also created a website and more user-friendly marketing materials to inform the public with visualizations that helped endorse the values of the JCOC. This was meant to draw users to the nonprofit organization and create interest among supporters and prospective donors. Getting students involved in the data collection, visualization, and marketing, enhancing the connectivity between the JCOC and the community, and creating material that saw a 102 % increase in users since creation versus traditional visits to the JCOC center (data compared to conventional monthly visits to in-person facility against website visits for a month). Based on the

data above and the author's experience in the field, we suggest nonprofit organizations use GIS to provide data visualization to improve their efficiency and outreach.

LIMITATIONS

This study has some limitations; firstly, we only chose a case study of a non-profit organization to practice and collaborate with our research. The connectivity between nonprofits, GIS, and student engagement in the classroom has made it challenging to collect data. We need a larger pool of clients and nonprofit organizations engaged in such projects to get more future business practice information.

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