

THE ROLE OF TECHNOLOGY FOR FUNDRAISING IN THE NONPROFIT SECTOR

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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With charitable organizations contributing \$1.05 trillion to the US economy and composing 5.6% of the country's GDP in 2016, the nonprofit sector plays a significant role in the lives of those in need as well as in the economic functionality of the United States (NCCS Project Team, 2020, para. 2). The National Center for Charitable Statistics (NCCS) Project Team (2020) states in their 2019 Nonprofit Brief that private charitable giving rose consecutively from 2014 to 2017 to reach the highest point in history, only to drop 1.7% in 2018 (para. 2). The lack of donations is an issue that lends itself to a push for data analysis implementation into current nonprofit systems. Having a strategy to analyze collected data about donors and transactions leads to more efficient donor solicitation. In the technical report, analysis strategies will be addressed using a data-driven approach to find out about how The Children's Inn at the National Institute of Health (NIH) can raise additional funds from donors.

Tightly coupled, the STS research paper employs an Actor Network Theory framework to focus on the situation in which actors within the nonprofit sector are underutilizing the role of IT in their management systems. The existing complication of a lack of funds and a deficiency in IT staffing within the sector leads to a dilemma in which these organizations struggle to raise funds for IT systems due to not having these systems implemented in the first place. The question then arises as to how the organizations can effectively raise funds to afford the expenses involved with preparing for a new IT system. Similar to the technical report, the STS report aims to discover more about how data analysis can be leveraged to contribute to fundraising efforts. The goal is to find the ways that nonprofits can use data analysis strategies to effectively raise funds to afford

larger scale IT system implementations. Improvements found in this section can be recommended to The Children's Inn at NIH to further advance their program..

Advised by William Scherer of the Engineering Systems and Environment department at the University of Virginia, the technical project will be conducted by a group of four students studying Systems Engineering from the same university, consisting of myself, Joshua Eiland, Clare Hammonds, and Sofia Ponos. The client that is involved with the work of the technical report is The Children's Inn, a nonprofit organization that serves as a residential home for families with children participating in leading-edge research at the National Institutes of Health (NIH). The NIH is able to take care of the child's needs and partner with the families to advance medical discoveries, while The Inn provides comfort ("About The Inn", n.d., para. 1). The project started in September of 2020 and is planned to be completed before May of 2021.

THE NEED FOR NONPROFITS TO UTILIZE TECHNOLOGY

According to Hackler and Saxton (2007), charitable organizations have been increasingly put in direct competition with both for-profit entities and a growing number of other nonprofits (p. 474). Corder (2001) explains that in capital-poor organizations, a "lagging adoption of technology is consistent with slow responsiveness to new demands" (p. 199). With successful implementation of IT, nonprofits have the potential to "incite organizational transformation by fundamentally reconfiguring a nonprofit's structures and working relationships" and "significantly improve its organizational learning and knowledge management systems" (Hackler & Saxton, 2007, p. 475). By implementing information technology to meet external demands for performance information and accountability, nonprofit organizations can continue to receive government funds (Corder, 2001, 201). Many nonprofit organizations remain behind the curve in

terms of maximizing IT's full potential and realizing the benefits it has to offer (Geller et al., 2010, pp. 2-6).

Actor Network Theory Applied To The Nonprofit Sector

Actor Network Theory (ANT) can be applied to the nonprofit sector in order to analyze the actors involved and their relationships. The “network” component of ANT represents the “systems of behavior and social practices that are intertwined with material objects”, while the “actor” component emphasizes the “presence of many actors, human and nonhuman” . With ANT, the intertwined systems of behaviors between material objects, social behaviors, and groups can be analyzed (Johnson, 2005, p. 1792).

The nonprofit sector is broken up into four main categories, with a number of actors within each category. These actor categories include sources of funding, funding intermediaries, nonprofit service providers, and recipients of service (Bradley et al., 2003, p. 97). Monetary funds can be directed to the recipients of service through nonprofit service providers, who received their funds either directly from sources of funding or from funding intermediaries (Bradley et al., 2003, p. 97). Databases now exist that can connect donors and foundations to organizations that would best utilize their funds for communities in need (Sullivan, 2020, para. 7-24). Figure 1 shows the network between the primary organizational and human actors in terms of revenue. Currently, it is perceived that a lack of revenue from sources of funding and funding intermediaries to nonprofit service providers prevents the nonprofits from obtaining the information technology that will best serve their organization. Data analysis techniques serve as a technological actor that helps to connect each actor to raise funds more efficiently. Data analysis can be converted into information, insights, and value and used to create strategy, goals, and

actions that will drive the direction of the organization (MacLaughlin, 2016, p. 14). With data strategies in place, nonprofits will be better equipped to target donors and funding sources for fundraising.

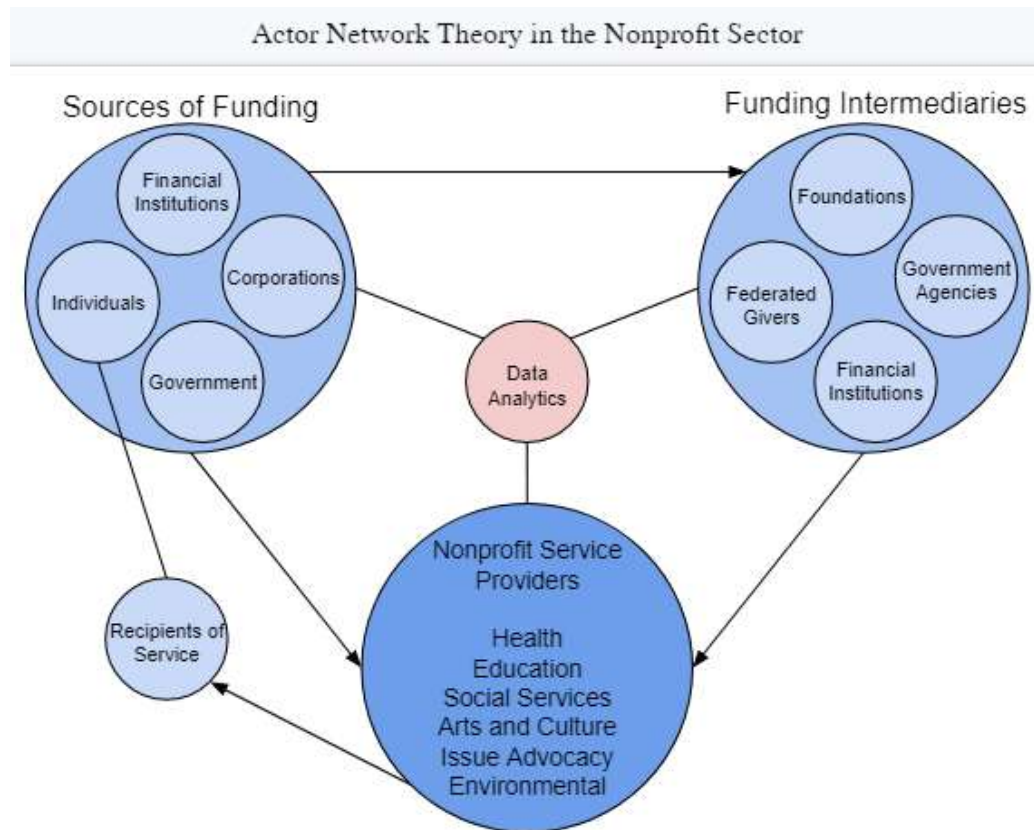


Figure 1: Human and organizational actors involved in the nonprofit sector: Funds are transferred from multiple sources to the nonprofits and ultimately to the service recipients, data analytics can be utilized in all segments to increase funding efficiency (Weigand, 2020)

UNDERFUNDED AND UNDERSTAFFED

With the number of organizations doubling since the late twentieth century and a jump in paid employment from 5 to 7 percent of the U.S. total employment, nonprofits have been hit hard by decreased government funding as well as an increased demand for their services (Hackler & Saxton, 2007, p. 474). Only nonprofits with budgets greater than \$5 million have technical

support staff regularly dedicated to IT or information systems in the office (Hackler & Saxton, 2007, p. 478). Nonprofit organizations do not see IT as a top priority and would rather not spend the funds that they do have on staffing or training (Hackler & Saxton, 2007, p. 478). As a result, these organizations lack a coherent organizational management structure.

Barriers to Nonprofit Technology Acquisition

According to Corder (2001), “Nonprofits have fewer economic resources than do private or public sector counterparts, nonprofits must train a large volunteer workforce, and nonprofits must attract resources from donors oriented to service (not administration)” (p. 198). With legal restrictions in place that limit the amount of capital that a nonprofit can accumulate, it is difficult for the organizations to make substantial one time investments in information technology or other expensive innovations (Corder, 2001, p. 199). Another effect of having limited capital is the reliance of nonprofits on a volunteer workforce. This handicaps the sector due to the training that is required for an effective information technology system. With high workforce turnover, it is not worth the resources for training workers to become more skilled in technology (Corder, 2001, p. 200). Additionally, donors do not prefer to provide gifts that will be used for technology administration and would rather see the funds go directly to helping the service recipients (Corder, 2001, 201). In the end, nonprofit organizations need a way to navigate around the lack of funding in order to gain the ability to purchase technology and train staff to employ it.

DATA AND DONATIONS DILEMMA

As shown in Figure 2, about one-third of nonprofits are limited in their technology usage for program and service delivery (Geller et al., 2010, p. 3). At the same time, Figure 3 shows that

the majority of nonprofit organizations lack the money, time, expertise, staff and evaluations necessary to increase the usage of IT for program and service delivery (Geller et al., 2010, p. 7). These circumstances serve as the reason as to why nonprofits have both an imminent need for technology and limited accessibility to these advances. This paper aims to find the ways that nonprofits can use data analysis

strategies to effectively raise funds to afford larger scale IT system implementations.

How would you describe your organization's use of IT for program or service delivery?

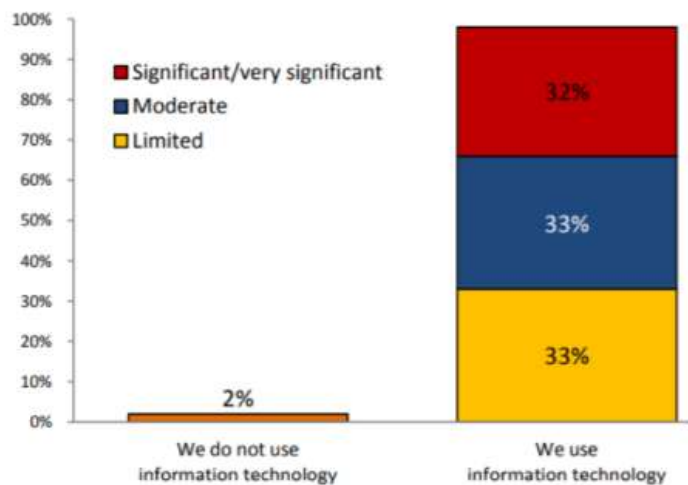


Figure 2: Nonprofits in The Johns Hopkins Nonprofit Listening Post Project Information Technology Sounding answer how they would describe their organization's use of IT for program or service delivery (Geller et al., 2010, p. 3)

Major obstacles/challenges to increasing the use of technology for program and service delivery

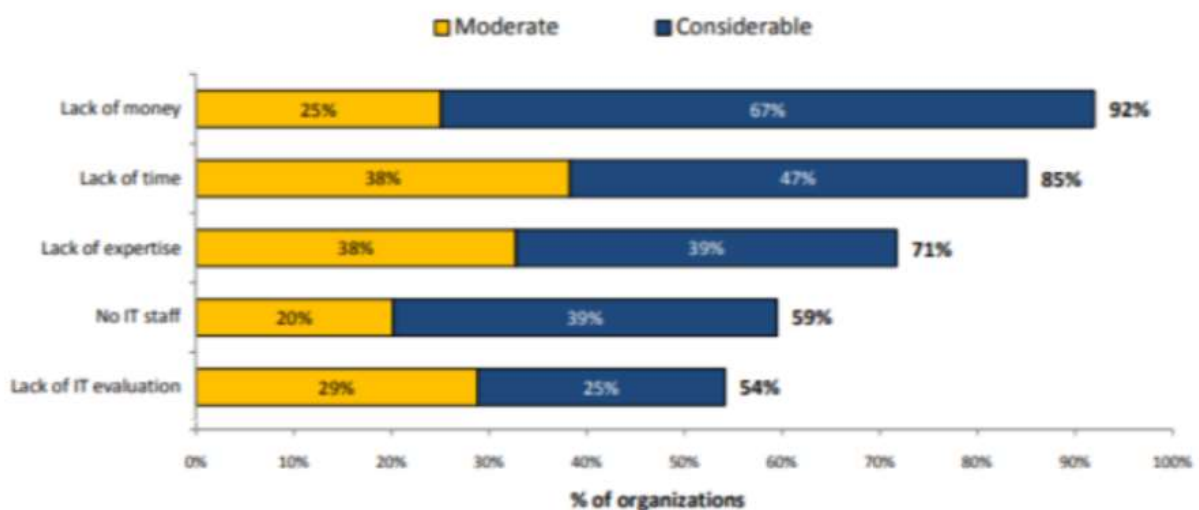


Figure 3: Nonprofits in The Johns Hopkins Nonprofit Listening Post Project Information Technology Sounding what the major obstacles/challenges are to increasing the use of technology for program and service delivery (Geller et al., 2010, p. 7)

Addressing Issues of Ethics

The issues stated about nonprofit fundraising can be examined through the lenses of ethical testing. In 1863, John Stuart Mill (2001) described utilitarian morality by explaining how “the happiness which forms the utilitarian standard of what is right in conduct, is not the agent’s own happiness, but that of all concerned” (p. 19). The aim of a nonprofit organization is to “further a social cause and provide public benefit” (Kenton, 2020, para. 1). As such, nonprofit organizations lend themselves to utilitarian ethics by aiming to improve the happiness of a larger group outside of those performing the work. While incorporating information technology into the system of a nonprofit organization may seem like it is for the individual benefits of those in the organization, earlier portions of this paper explain the benefits it provides that make it more efficient in performing its duties and raising funds to help the recipients of service. Since it is benefiting all involved, developing IT systems would be a moral action in utilitarianism ethics. Similarly, data analytics practices like those discussed in the next section are invested in for the purpose of creating more efficient fundraising efforts. If an organization can target an audience in their campaign who are more likely to be passionate about the cause and provide donations, then they will be able to raise funds more effectively and better serve those in need of service with the additional capital. Thus, investing in data analytics will align with the morality of utilitarian ethics.

DATA SOLUTIONS TO IMPLEMENT

The symbiotic relationship between donations and data analysis can be seen in Figure 4. Data analysis methods such as model building, donor mining, database access, and customer

relationship management systems help nonprofits to target the right donors in the most efficient manner. The additional donations can be used to purchase information technology (IT) systems or can be funneled back into data strategies in an effort to raise even more funds. By hiring or training staff in IT, purchasing and collecting data, and consulting with a firm that provides data reports, a nonprofit organization can better utilize their data and see larger returns on their campaigns.

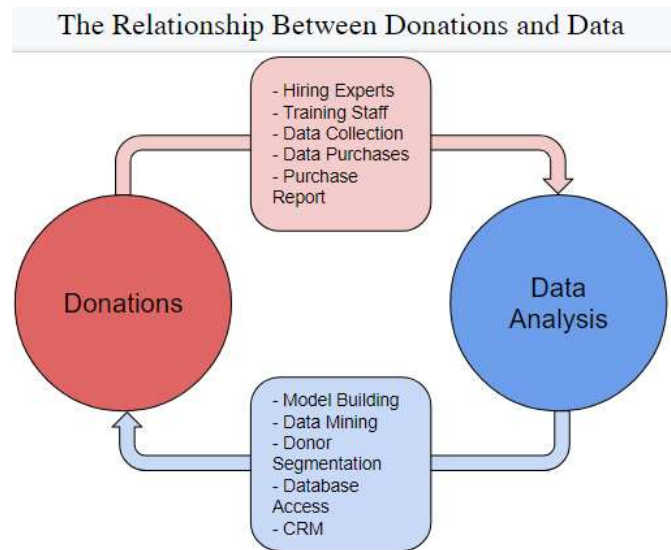


Figure 4: Funds from donations and data analysis are directly connected: Donations are used to implement data analysis practice while the data analysis helps to raise more funds (Weigand, 2020)

Data Modeling and Analytics

Building a custom response model can help nonprofit organizations to target individuals who are likely to make a charitable donation based on their characteristics, such as age, gender, income, and location (Key, 2001, p. 335). Nonprofit organizations have an advantage over for-profit entities when it comes to this modelling technique due to the fact that they have access to large pools of prospecting data at little to no cost. This data contains information about the characteristics for the prospects, and is continually growing (Key, 2001, p. 336). Training the response model with the data pools will allow for the creation of accurate models to help with prospecting constituents who are likely to donate.

Besides model building, data analysis can compare important statistics such as gift amounts and response rates to previous campaigns or industry standards, allowing organizations to see how effective their new strategies are carrying over into fundraising successes (Heyman & Brenner, 2016, p. 113). By statistically analyzing demographics, geography, and transactions of constituencies, analytics can assist in making organizational decisions by evaluating program performance and projecting future program performance (Birkholtz, 2008).

Databases and Other Channels

The recent access to databases helps to connect nonprofits with the target service recipients as well as with matching foundations who are looking to donate. Databases can be specified towards specific relevant causes, like social justice movements or COVID-19 charities. For example, Vanguard uses geography to show donors three major criteria to assess the coronavirus's impact, and Give Bkck aims to call attention to Black-founded nonprofit organizations that were little known or too small to be highlighted by some of the leading philanthropic rating services (Sullivan, 2020, para. 7-24). This will effectively allow organizations to give to communities who are relevant to their cause and in the most need.

Having a customer relationship management (CRM) platform will provide dashboard access for staff to track detailed key metrics about their donors and use them to create real-time insights for strategic decisions (Heyman & Brenner, 2016, p. 61). CRM's allow for more connectivity to customers within an organization and improves profitability with the streamlined process. Heyman and Brenner (2016) also demonstrate how leveraging other channels such as social media, email, and crowdfunding platforms to promote the campaign on top of data analysis techniques and database access will lead to the most success (p. 99).

FUTURE WORK

Future work regarding the involvement of technology and data in nonprofit fundraising can examine the types of IT systems that are most beneficial to the nonprofit sector. This can be performed using a different framework than Actor Network Theory, such as the Social Construction of Technology (SCOT) or Pacey's Triangle. SCOT would help to examine how social groups impact the development of nonprofit fundraising, while Pacey's Triangle can be useful to analyze the intersection between cultural, organizational, and technical aspects of fundraising. There can also be a comprehensive examination of the ethical natures involved with implementing these systems, such as rights ethics, duty ethics, virtue ethics, or pragmatism.

This research paper explains the issue that nonprofit organizations face with regards to their lack of funds in relation to the adoption of information technology systems. IT systems would allow for more efficient handling of organizational processes and better tracking of information, leading to additional government funding and better allocation of resources. Data analytics methods are recommended so that these organizations can optimize their donor acquisitions, leading to larger and more frequent donations. These donations can be used to implement and train staff for IT systems, invest in improved analysis of data, or provide further assistance to the recipients of service.

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