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ABSTRACT

This research empirically analyzes the impact of both the Web and social media on the performance of nonprofit organizations by using 100 nonprofit organizations ranked by web traction measures, including Facebook Likes and Twitter Followers. Our findings from ANOVA and non-parametric tests demonstrate that nonprofit organizations with higher web traction have greater contributions and grants than others with lower web traction. These findings suggest that the use of the Web coupled with social media promotes better, interactive (two-way) communications with the public, as well as fundraising and that nonprofit organizations that attract more supporters on the Web and social media can increase charitable giving. Our regression analyses based on the economic model of giving that estimates the direct relationship between web traction and donations show similar results. However, the results also show that the impact of economic factors such as price and fundraising activities on charitable giving is much greater than the impact of web traction.

Keywords: nonprofit, performance, web traction, social media, fundraising, donations, contributions and grants, charitable giving

INTRODUCTION

The nonprofit sector is steadily growing. In 2013, approximately 1.41 million nonprofit organizations were registered with the Internal Revenue Service (IRS) (McKeever, 2015). These nonprofit organizations employ 11.4 million workers, approximately 10.3% of the private sector workforce. In 2014, the nonprofit sector contributed an estimated $937.7 billion to the US economy, which made up 5.4 percent of the country's gross domestic product (GDP) (McKeever and Gaddy, 2016).

According to the 2017 Charitable Giving Report, while overall charitable giving in the United States increased 4.1% in 2017, online giving grew 12.1% in the same

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year, compared to 2016 (MacLaughlin, 2017). Online giving in the U.S. was 7.6% of overall fundraising revenue in 2017. While charitable giving through traditional channels, such as direct mail, is still dominant for fundraising, online giving is continually growing. It is also notable that in 2017, over 21% of online donations were made on a mobile device, illustrating the steady growth of mobile giving (MacLaughlin, 2017).

Mobile technology has made online donations easier for nonprofit organizations, especially with the use of social media, such as Facebook's "Donate Now" button. (LaMagna, 2015). About 20% of donations were made on mobile devices during the holiday season in December 2015, compared to about 13% during all of 2014. Another simplest form of mobile donation is text giving (Chambers, 2013). A most vivid example of text giving was the text "Haiti" campaign, which raised more than $32 million in the month following the devastating Haiti earthquake occurred on January 12, 2010 (Hamblen, 2010). The smartphone generation is heavily active on social media, and it can provide a new opportunity for charities. According to Chambers (2013), in the U.K., Facebook is quickly catching browsers as a major source of donations; more than a quarter of all mobile traffic was coming from Facebook mobile usage in 2012.

As described above, nonprofit organizations are increasingly using the digital space to communicate with the public and promote charitable giving. In particular, as the number of people using smart mobile phones increases, especially the new generation of givers, the potentials of the Web and social media for charities are increasing since they make it easier for the public to give more, wherever they are (Chambers, 2013).

Facing challenges, such as increased demand for services and a decrease in government funding, along with limited resources, nonprofit organizations need to use every new channel they can communicate with the public and promote charitable giving. The use of the Web (browsers) and social media has good potentials for promoting fundraising. There has been extensive research on the use of the Web and social media (Kang and Norton, 2004; Waters, 2007; Hackler and Saxton, 2007; Curtis, et al., 2010; Waters, et al., 2009; Nah and Saxton, 2013; Guo and Saxton, 2014; Campbell, Lambright, and Wells, 2014; Shin, 2016; Young, 2017). However, there is limited research empirically examining nonprofit organizations' use of the Web and social media particularly for fundraising. This research examines the impact of nonprofit organizations' use of the Web and social media on performance, as measured by revenue, including income from public support. By doing so, this research adds new knowledge to the literature on IT impacts on charitable giving in the nonprofit sector.

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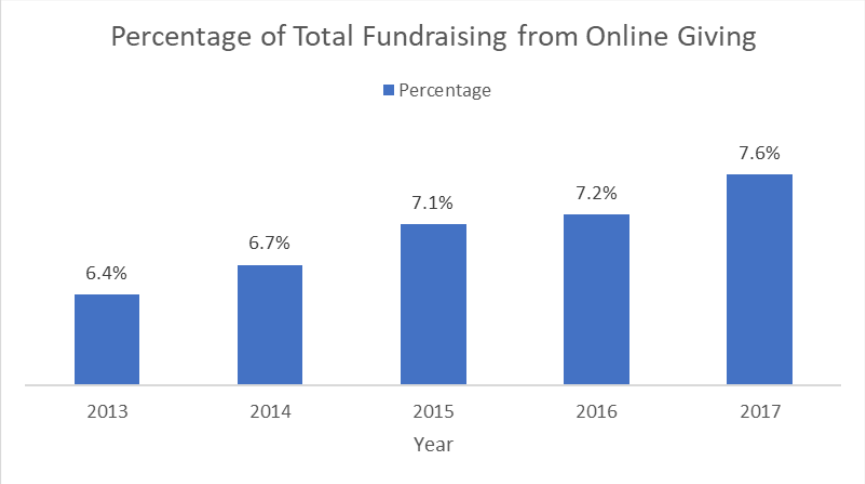
For the empirical analysis, we employ two data sources: 1) the list of top 100 nonprofit organizations ranked on the ratings on web traction measures, which was published by Top Nonprofits (TN) in 2016; and 2) Guide Star, a database service on U.S. nonprofit companies. We collect annual financial data, such as contributions and grants, total revenue, fundraising expenses, total assets, and net income, from Guide Star (by using form 990) for the nonprofit organizations in the TN list. Web traction refers to how extensively nonprofit organizations draw the public on their websites and social media, and Top Nonprofits calculates it from multiple measures, such as Alexa's traffic rankings, Moz Page Authority and Linking Root Domains (homepage), Charity Navigator's Ratings, Facebook Likes, and Twitter Followers.

LITERATURE REVIEW

Nonprofit organizations aim to fulfill social missions, and fundraising through communications and building relationships with the public is critical for the fulfillment of social missions (Shin and Chen, 2016). As online charitable giving increases, digital communication has become essential to charity fundraising and relationship management with supporters. A lack of understanding of digital at the board or director level could damage fundraising prospects (Amar, 2012). Figure 1 shows the increasing trends in online giving in recent years.

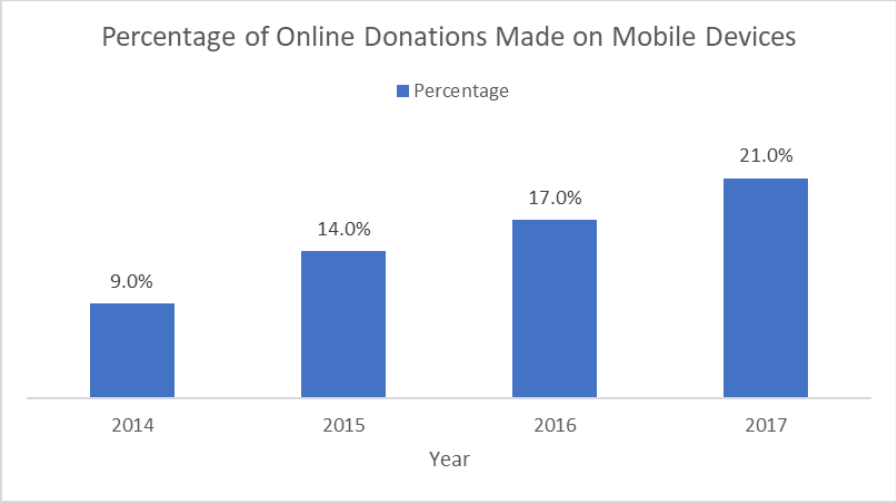
Figure 1. Trends in Online Giving



(Source: 2017 Charitable Giving Report, Blackbaud Institute)

The key to nonprofits' success lays in interaction with the public, e.g., two-way communication (Pacific Continental, 2010). Nonprofit organizations recognize that reaching out to the public in the social media sphere gives them an opportunity to increase interaction with their supporters. Furthermore, the smartphone generation is heavily active on social media, and nonprofit organizations should be aware of the opportunity arising from the use of social media. In fact, the percentage of online giving made on a mobile device has been increasing from 9% in 2014 to 21% in 2017, as shown in Figure 2.

Figure 2. Trends in Online Giving on Mobile Devices



(Source: 2017 Charitable Giving Report, Blackbaud Institute)

Facebook is quickly catching the Web as a primary source of donations, and a quarter of all current mobile traffic is coming from Facebook mobile usage (Chambers, 2013). Mobile is growing as a platform for charitable giving. The simplest form of mobile donations is text giving, and its impact vividly demonstrated in the U.S. when close to $50 million was raised through texts alone after the devastating Haiti earthquake (Hamblen, 2010). Mobile technology has made online donations easier for nonprofit organizations. The use of the social media, such as Facebook's "Donate Now" button, especially with the use of mobile

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phones, might also lead to increased online donations for nonprofit organizations as more people use it.[1]

Research has examined the potentials of social media for better interactions with supporters (two-way communication) and as a new medium for fundraising. Waters and his colleagues (2009) examined nonprofits' Facebook profiles to find out how social media such as Facebook were used to engage their stakeholders and foster relationship growth. They found that nonprofit organizations included in their study used Facebook mainly for information disclosure, such as a description of the organization, the mission statement, and the list of administrators, but there were high variations among nonprofit organizations for the use of Facebook profiles for information dissemination and interactions with their supporters. Overall, the use of Facebook for information dissemination and interactions with supporters was limited. Campbell, Lambright, and Wells (2014) also found that nonprofit organizations use social media in limited ways, mainly on marketing organizational activities and promoting events, and its value potentials were not fully realized for the organizations. They argued that there was an absence of well-developed strategic thinking regarding the use of social media for advancing organizational goals.

Saxton and Wang (2014) examined the determinants of charitable giving in social networking environments by using data from Facebook *Causes*. The study employed 66 nonprofit organizations that had accounts on Facebook *Causes*, and the data were collected for the period from December 5, 2009 to January 4, 2010. They found that the size of an organization mattered as measured by the number of members on Facebook *Causes*—Saxton and Wang (2014) called it as "*social network effect*." They also found that fundraising success was related not to the organization's financial capacity but its web capacity (i.e., the number of links to the nonprofit's website from external websites) and that donors are prone to contribute to specific categories, especially those related to health. They argue that social media may have significantly increased nonprofits' ability to strategically engage large audiences and do so more efficiently than traditional fundraising methods, such as direct mail, door-to-door, and telemarketing campaigns. However, they suggest that social media networking and traditional approaches to fundraising are complements rather than substitutes.

Young (2017) examined how and why nonprofit human service organizations were using social media by employing a cross-sectional survey including questions for

[1] As of June 30, 2018, 2.23 billion monthly active users were on Facebook. There were 500 million active users on July 21, 2010, and 1 million active users on December 1, 2004—Facebook was founded on February 4, 2004 (https://newsroom.fb.com/company-info/).

social media use, practices, frequency, satisfaction, and future plans. He found that nonprofit human service organizations used social media primarily to promote their organization and services and planned to continue to use it in the future. The organizations he studied were generally satisfied with the use of social media for promoting relationships with stakeholders and interactions with people, as well as information sharing, increasing community awareness of programs and services, collaborating, and recruiting volunteers.

Charities are prolific users of social media (Young, 2017). According to Barnes (2014), ninety-seven percent of charitable organizations already had a Facebook profile in 2009, outpacing for-profit organizations and even academic institutions in their familiarity, use and monitoring activities. As nonprofit organizations continue to use the Web and social media for communication and fundraising, it is crucial to continue the stream of research discussed above. While there has been much research on nonprofits' use of social media, research empirically examining its impact on the performance of nonprofit organizations on fundraising is scant (Haruvy and Popkowski Leszczyc, 2018). Most studies also have examined social media and the Web separately. However, the two media are closely related and may supplement each other for attracting the public; a nonprofit organization's website link to a social media platform would foster more interaction with people and help to promote the organization, and vice versa. As Young (2017) states, social media creates a dialog capacity with an otherwise static website by offering the opportunity to share information and interact with the public. By considering the impact of social media coupled with the Web on the performance of nonprofit organizations, this research attempts to address the gap in the previous research.

METHODOLOGY AND DATA

In order to examine the impact of the Web and social media on the performance of nonprofit organizations, we employ the rankings based on web traction on both the Web and social media and their impacts on revenue generation. Web traction refers to how extensively nonprofit organizations draw the public on their websites and social media. It is calculated from multiple measures, such as Alexa's traffic rankings, Moz Page Authority and Linking Root Domains (homepage), Charity Navigator's ratings, Facebook Likes, and Twitter Followers (Top Nonprofits, 2016).[2] As measures of nonprofits' performance, we use multiple measures, such

[2] The calculation method for the measure of web traction is explained on Top Nonprofits' website at <https://topnonprofits.com/lists/best-nonprofits-on-the-web/>.

as contributions and grants, total revenue, net income, return on assets (ROA), and return on sales (ROS).

We employ multiple analysis methods, including one-way analysis of variance (ANOVA) and non-parametric Wald Z and median χ^2 tests. The one-way ANOVA is used to assess the statistical significance for differences between multiple groups. It assumes the equal variances of the groups and normal distribution of test variables. ANOVA is robust to unequal variances when the groups are of equal or near equal size. However, when both the variances and the sample sizes differ, we may need to transform the data, for example, log transformation or perform a non-parametric test (Norusis, 2004). Non-parametric tests make no assumptions about the mean and variance of a distribution, nor do they rely on the assumptions of any particular distributions (Conover, 1980; Siegel and Catellan, 1988; Norusis, 2004). We employ non-parametric Wald Z and median χ^2 tests to supplement the ANOVA test.

We employ two data sources: 1) Top Nonprofits (TN) top 100 nonprofits on the Web ranked based on web traction (Top Nonprofits, 2016) and 2) Guide Star, a database service on U.S. nonprofit companies. We collect annual financial data, such as contributions and grants, total revenue, and fundraising expenses, from form 990 available from Guide Star for the nonprofit organizations in the TN list.

We use top 25 and bottom 25 nonprofits the list of top 100 nonprofits on the Web.[3] The data collected for these 50 nonprofits are contributions and grants, total revenue, total fundraising expenses, total expenses, total assets, net income, ROA, ROS, years in operation, and nonprofit sector classification based on the National Taxonomy of Exempt Entities (NTEE). The data set includes nonprofit organizations across various industry sectors, but it does not include organizations from the education sector. Following is the list of industry sectors, in which the nonprofit organizations in the data set are operating: 1) arts, culture, and humanities, 2) environment and animals, 3) health, 4) human services, 5) international, foreign affairs, 6) public, societal benefits, and 7) religion. The sample includes 188 observations for the four years from 2012 to 2015. The sample statistics are shown in Table 1.

[3] A sample of the top and bottom 25 nonprofits is used in order to create a greater distance between the two groups. We expect there would be a more significant gap between the top 25 and bottom 25 nonprofits, compared to a sample of the top half and bottom half NPOs.

Table 1. Summary Statistics for Top 25 and Bottom 25 Nonprofits (2012-2015)

Variables	Top 25			Bottom 25			Full Sample		
	Mean	St. Dev.	Obs.	Mean	St. Dev.	Obs.	Mean	St. Dev.	Obs.
Contributions and Grants (millions)	$313.5	$449.2	87	$106.3	$174.4	99	$203.2	$347.3	186
Total Revenue (millions)	$418.9	$701.4	89	$434.5	$1,061.7	99	$427.1	$906.8	188
Total Fundraising Expenses (millions)	$23.6	$38.2	83	$14.0	$33.6	95	$18.5	$36.0	178
Total Expenses (millions)	$403.1	$701.2	89	$405.4	$973.0	99	$404.3	$852.9	188
Total Assets (millions)	$667.4	$1,197.4	89	$697.2	$1,729.4	99	$683.1	$1,497.4	188
Net Income (millions)	$15.8	$53.0	89	$27.5	$98.0	96	$21.9	$79.6	185
Return on Assets (% of total assets)	.037	.105	89	-.007	.297	96	.014	.227	185
Return on Sales (% of total revenue)	.069	.140	89	-.022	.341	96	.022	.267	185
Age (Years of Operation)[1]	67.5	42.1	25	74.4	49.2	25	70.9	45.5	50

[1] The age (years of operation) of an organization is calculated by subtracting the year founded from the year 2015, which is the last year of the sample data collected.

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RESULTS

Our results show that the top 25 nonprofits (i.e., nonprofit organizations with higher web traction) have greater contributions and grants and fundraising expenses than the bottom 25 nonprofits (i.e., nonprofit organizations with lower web traction). The difference is statistically significant for all three test statistics of ANOVA, non-parametric Wald Z and median χ^2 tests (at a level of .001, .01 or .05).[4] The results are shown in Table 2.

The top 25 nonprofits also have positive ROA and ROS, compared to the bottom 25 nonprofits. However, the difference is statistically significant only for ROS. On the other hand, the bottom 25 nonprofits have greater total revenue, total expenses, and total assets. It implies that the size of the bottom 25 nonprofits is bigger than the top 25 nonprofits. It is notable that the portion of contributions and grants from total revenue is higher for the top 25 nonprofits (i.e., nonprofit organizations with higher web traction) than the bottom 25 nonprofits (i.e., nonprofit organizations with lower web traction). These findings suggest that web traction has a greater impact on contributions and grants, compared to other revenue sources, such as program service revenue and investment income.

Table 2. ANOVA[1], Non-parametric Wald-Wolfowitz Z-test and Median Test Results for Top 25 and Bottom 25 Nonprofits (2012-2015)

		N	Mean	F	Z	Median test (χ^2)
Contributions and Grants (millions)	Top 25	87	$313.5	30.273***	-2.748**	18.162***
	Bottom 25	99	$106.3			
Total Revenue (millions)	Top 25	89	$418.9	10.260**	-3.188***	17.944***
	Bottom 25	99	$434.5			

[4] In order to supplement the analysis, we also conducted the same three tests for a different sample: top 25 nonprofits and other nonprofits that were not included in the list of top 100 nonprofits. For the group of other nonprofits, nonprofit organizations with a similar size (as measured by total assets) operating in the same sector were selected to match with the top 25 nonprofits in order to reduce the impacts of the organizational size and the sector. The results (available upon request) are similar to the analysis results of the top 25 and bottom 25 nonprofits. The top 25 nonprofits have greater contributions and grants and fundraising expenses than other nonprofits, and also have higher ROA than other nonprofits.

Total Fundraising Expenses (millions)	Top 25	83	$23.6	17.173***	-2.204*	11.942***
	Bottom 25	95	$14.0			
Total Expenses (millions)	Top 25	89	$403.1	8.611**	-2.601**	20.505***
	Bottom 25	99	$405.4			
Total Assets (millions)	Top 25	89	$667.4	6.056*	-4.068***	7.703**
	Bottom 25	99	$697.2			
Net Income (millions)	Top 25	89	$15.8	1.010	-.793	1.946
	Bottom 25	96	$27.5			
Return on Assets (%)	Top 25	89	.037	1.730	-.645	.137
	Bottom 25	96	-.007			
Return on Sales (%)	Top 25	89	.069	5.386*	-1.383^{+}	.920
	Bottom 25	96	-.022			

*** <.001; ** <.01; * <.05; $^{+}$ <.10

[1] ANOVA was run with the values with log transformation except for net income, ROA, and ROS, which have quite a few negative values. For these three variables, we run ANOVA with Z score values.

While the ANOVA and non-parametric test results show the differences in the performance of nonprofit organizations based on rankings based on web traction, it does not directly examine the relationship between web traction and nonprofits' performance. Thus, in order to examine the direct relationship between web traction and nonprofits' performance, we conduct ordinary least squares (OLS) regression analyses of nonprofits' performance with web traction factors reduced from the six web traction measures. We extract two web traction factors by employing the principal component analysis for an extraction method and the Varimax with Kaiser Normalization for a rotation method. The sample includes 100 observations for the year of 2015.[5]

[5] The sample summary statistics and correlations of variables are shown in Appendix (Tables A1 and A2). We use the sample of 100 nonprofits for the regression analysis, compared to the ANOVA and non-parametric analysis, which employs a sample of 50 nonprofits (top 25 and bottom 25 nonprofits).

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Our base model measures the performance of nonprofit organizations as measured by contributions and grants influenced by web traction factors while controlling for total assets and the industry classified by health, welfare, and cultural activities.[6] We also extend the base model to incorporate the economic model of giving proposed by Weisbrod and Dominguez (1986). The economic model of giving posits that as in the consumer market, donor contribution is determined by price, quality, and the information about both price and quality available to the donor. It assumes that when donors give contributions of money, they give not a dollar's worth of money, but rather a dollar of output. Thus, price is defined as "the cost to a donor of purchasing one dollar's worth of the organization's output". It is a function of efficiency, with which the organization turns donations into programmatic output (Saxton and Wang, 2014). Given that nonprofit organizations can devote resources to programs after fundraising expenditures are incurred, price is measured as the ratio of donations (e.g., contributions and grants) to program expenses (i.e., donations minus fundraising expenses). As fundraising expenses increase, prices become higher, and higher prices are expected to lead to lower aggregate donations from the public. We use the age of the organization as a proxy measure of quality. In the consumer market, information on the qualities of the firms' output is transferred to consumers through advertising. Fundraising activities play a similar role as advertising in helping spread information on the quality of the organizations' programs (Weisbrod and Dominguez, 1986; Saxton and Wang, 2014). Based on the concepts described above, we propose the following analytical model: we apply a log transformation to such variables as contributions and grants, total assets, price, and fundraising expenses.

$$\begin{aligned} LnCG_i = {} & \beta_0 + \beta_1 Factor1_i + \beta_2 Factor2_i + \beta_3 LnTA_i + \beta_4 LnPrice_i + \\ & \beta_5 LnFund_i + \beta_6 Age_i + \beta_7 Age_i \times LnFund_i + Industry_i + \varepsilon_\tau \end{aligned}$$

CG stands for contributions and grants. Factor 1 and Factor 2 are reduced from PCA. Factor1 is derived from a cluster of the four measures of Moz Page Authority, Linking Root Domains (homepage), Facebook Likes, and Twitter Followers. Factor2 is derived from a cluster of the two measures of Alexa's traffic rankings and Charity Navigator's ratings. TA stands for total assets. As described earlier, price is constructed by the calculation of CG/(CG – Fundraising expenses). Fund represents fundraising expenses. While fundraising efforts can increase the level of contributions directly, they may decrease contributions by increasing the price of giving. Thus, we expect the coefficient of fundraising expenses to be positive, but

[6] Due to the small sample size, we classify the industry into three sectors: health, welfare, and cultural activities. The welfare sector includes environment and animals, human services, international, foreign affairs, and public, societal benefits. The sector of cultural activities includes arts, culture, and humanities and religion.

the coefficient of price is negative. Age is the age of a nonprofit organization. The interaction term of age and fundraising expenses is included to examine the marginal effectiveness of fundraising activities for an organization of a certain age. We expect the sign of the interaction term of age and fundraising is negative since the older an organization is, the less effective additional fundraising effort is likely to be in providing new information or increasing new donations. Industry is a dummy variable for the industry sector. The regression results are shown in Table 4.

Table 3: Regression Results

Variables	Model 1	Model 2
Factor1	.325* (.141)[1]	.004 (.056)
Factor2	.034 (.114)	-.005 (.044)
Ln(Assets)	.642*** (.068)	.095* (.045)
Health	.303 (.481)	.065 (.181)
Welfare	.194 (.430)	.271^{+} (.160)
Ln(Price)		-6.440*** (.543)
Ln(Fund)		.846*** (.060)
Age		-.005 (.011)
Age x Ln(Fund)		.000 (.001)
Adjusted R^2	.575	.943
R^2 Change	.604***	.346***
F Change	20.448	109.210
Number of Observations	73	73

$^{+}$p<.10, *p<.05, ***p <.001
[1] standard error

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As shown in Model 1 (base model) in Table 3, Factor1 is positively associated with donations (contributions and grants), and the positive relationship is significant at a level of .05. The result indicates that the traction of supporters on social media (Facebook and Tweeter) and the Web can increase contributions and grants. Our result also shows that the size of the nonprofit organization as measured by total assets is positively associated with donations (at a significance level of .001). The results suggest that while the importance of nonprofits' social media and web capacity is increasing, the financial capacity of nonprofit organizations is still critical for increasing donations.

As we expect, price is negatively associated with donations, and the negative relationship is significant at a level of .001 as shown in Model 2. Fundraising expenses are also positively associated with donations (at a significant level of .001). However, when the economic model of giving is incorporated into our base model, the magnitude of the coefficient of Factor1 is substantially decreased while the explained variance of the model is significantly increased. These results indicate that the explanatory power of the economic model of giving is substantial. On the other hand, the small sample size might be a factor that negatively influences the explanatory power of Factor1. Another reason might be that the effect of social media and the Web on donations is still relatively smaller, compared to economic factors, such as price and direct fundraising expenses.

DISCUSSION AND CONCLUSIONS

Organizations digitize to make their business operations and processes more efficient and to achieve their business goals. There has been much research examining the performance impact of information technology (IT) for businesses. The use of the Web and social media for nonprofit organizations has also been studied extensively in the past decade or so (Kang and Norton, 2004; Waters, 2007; Hackler and Saxton, 2007; Curtis, et al., 2009; Waters, et al., 2009; Nah and Saxton, 2013; Guo and Saxton, 2014; Campbell, Lambright, and Wells, 2014; Shin, 2016; Young, 2017). However, research on the impact of social media and the Web on the performance of nonprofit organizations has been scant. The exceptions were the studies by Saxton and Wang (2014) and Haruvy and Popkowski Leszczyc (2018) that examined the impact of social media on charitable giving while the former dealt with only the use of a specific app, Facebook *Causes*, and the latter focused on Facebook Likes influencing charitable behaviors.

This research empirically analyzes the impact of both the Web and social media on nonprofits' performance by using the list of top 100 nonprofits on the Web ranked by web traction measures, including not only the Web, such as Moz Page Authority and Linking Root Domains (homepage), but also social media, such as Facebook Likes and Twitter Followers. Our findings demonstrate that nonprofit organizations with higher web traction have greater contributions and grants than others with lower web traction. These findings suggest that the use of the Web and social media promotes better, interactive (two-way) communications with the public, as well as fundraising and that nonprofits attracting more supporters on the Web and social media can increase charitable giving. In the early days when social media was introduced, companies were experimenting it for its potentials for promotion and two-way communication. Nonprofit organizations followed suit, and now it is one of the essential channels for nonprofits' communications with the public and fundraising. Our regression analyses estimating the direct relationship between web traction and donations show similar results. However, the results also show that the impact of economic factors, such as price and fundraising, on charitable giving is much greater than the impact of web traction.

This research sheds light on the literature on IT impacts on charitable giving in the nonprofit sector by adding new knowledge. The contribution of this research is twofold: First, it conducts an organizational-level study by empirically examining the performance of nonprofit organizations using annual financial data, such as contributions and grants, total revenue, net income, ROA, and ROS, which are influenced by the use of social media as well as the Web (browsers). Second, it uses the rankings based on web traction, as well as various web traction measures on both social media and the Web, i.e., how extensively nonprofit organizations draw supporters on their websites and social media, which have not been used in previous research.

This research is not free from limitations. While the research examines the relationship between web traction and nonprofits' performance, the data set used for this research includes cross-sectional data for one year (the year of 2015). Top Nonprofits has published a similar dataset in 2017. While the new data set does not disclose various web traction measures, such as Facebook Likes and Twitter Followers, it includes web traction ratings used for ranking nonprofit organizations. Future research may pool these data sets for a longitudinal study.

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APPENDIX

Table A1. Summary Statistics

Variables	Mean	St. Dev.	Observations
Contributions and Grants (millions)	$164.7	$233.2	82
Total Revenue (millions)	$388.5	$870.3	82
Total Fundraising Expenses (millions)	$17.4	$31.6	82
Total Expenses (millions)	$361.3	$806.7	82
Total Assets (millions)	$691.1	$1,665.2	82
Price (CG/(CG-Fund))	1.155	.203	81
Age (Years of Operation)[1]	63.7	42.7	100
Alexa	73,510.48	88,126.55	100
Moz PA	83.16	8.51	100
Moz LRD	4,446.45	5,681.62	100
Facebook Likes (000)	1,403.02	4,153.54	100
Twitter Followers (000)	782.40	1,613.01	100
Charity Navigator	3.44	.64	91
Factor1[2]	.00	1.00	91
Factor2[2]	.00	1.00	91

[1] The age (years of operation) of an organization is calculated by subtracting the year founded from the year 2015, which is the last year of the sample data collected.

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[2.] Factor1 and Factor2 are derived from the principal component analysis (PCA). Factor 1 is derived from a cluster of the four factors of Moz Page Authority, Linking Root Domains (homepage), Facebook Likes, and Twitter Followers. Factor 2 is derived from a cluster of the two factors of Alexa's traffic rankings and Charity Navigator's ratings.

Table A2. Correlations[1]

	CG	Factor1	Factor2	TA	Price	Fund	Age
Contributions and Grants	1 (82[2])						
Factor1	.249* (75)	1 (91)					
Factor2	.074 (75)	.000 (91)	1 (91)				
Total Assets	.407** (82)	.027 (75)	.090 (75)	1 (82)			
Price	-.099 (81)	-.025 (74)	.222 (74)	-.089 (81)	1 (81)		
Fundraising Expenses	.765** (82)	.217 (75)	.247* (75)	.202 (82)	.130 (81)	1 (82)	
Age	.146 (82)	-.065 (91)	.207* (91)	.247* (82)	.031 (81)	.241* (82)	1 (100)

[1] Pearson Correlations (2-tailed)
[2] Number of observations.
** <.01 and * <.05