2017

# Gamification Techniques and Millennial Generation Philanthropy

Karen Kavanaugh Kavanaugh
*Walden University*

# Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Karen Kavanaugh

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Gary Kelsey, Committee Chairperson,
Public Policy and Administration Faculty

Dr. Mark Gordon, Committee Member,
Public Policy and Administration Faculty

Dr. Christopher Jones, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Gamification Techniques and Millennial Generation Philanthropy

by

Karen Kavanaugh

MA, Walden University, 2013

BA, Loyola University, 1979

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

February 2017

## Abstract

Beginning in 2015 a major demographic shift in the majority income producers in the United States has moved from Baby Boomers to Millennials. At the same time, many nonprofits are not equipped to engage with Millennials and lack the knowledge and resources to tap into their philanthropic preferences. Using the theories of planned behavior, reciprocal altruism, social status, and warm glow theory, the purpose of this qualitative study was to explore opportunities for U.S. based nonprofit organizations to interact more effectively with members of the Millennial generation in terms of philanthropic behavior. Data were collected and analyzed using Q Methodology and included 36 Millennials attending the University of Arkansas, Fayetteville. Overall the researcher found that Millennials embrace the idea of using gamification to further fundraising. Five factors or profiles of potential donors were extracted from the Q-sort results: (a) the nongaming, knowledge seeker; (b) the high engagement, needs recognition donor; (c) the philanthropist gamer; (d) the gamer, let's play but not compete; and, (e) the transparent gamer. The findings of this study have the potential to create positive social change by providing information to nonprofits who may use it to cultivate, educate, and solicit individual charitable donations from members of Gen Y. The positive social change implications of this study include advice to nonprofit organizations on ways to increase revenue streams through donations from Millennials that could enable nonprofit organizations to better fulfill their mission and serve their constituents.

# Gamification Techniques and Millennial Generation Philanthropy

by

Karen Kavanaugh

MA, Walden University, 2013

BA, Loyola University, 1979

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

Walden University

February 2017

# Dedication

This journey would not have been possible without my dear husband and son, Alan and Joseph Kavanaugh, who kept me buoyed with their love and support. I also dedicate this research to my beloved sister Nancy Lizana, who although she lost her battle with cancer, she led a life full of love and passion and taught me to do the same.

Acknowledgments

I will be forever grateful to my committee chair, Dr. Gary Kelsey, for believing in the concept of my research before it was 'fully baked', being open to an unconventional Q Methodology, keeping me encouraged during difficult times and providing unwavering support throughout the dissertation journey. It was also my good fortunate to benefit from the insights and knowledge brought to this process by my committee member, Dr. Mark Gordon and URR, Dr. Christopher Jones. To the students of the University of Arkansas, Fayetteville, thank you for the time you dedicated and your candor in responding to the Q-sorts and subsequent interviews. I would be remiss to not mention how much I valued the support I received from my sisters, nieces, and nephews, with a special thanks to my extended family of work colleagues in Walmart Stores Central Operations. An important member of my Walmart family is my friend and mentor, Shannon Letts. As I struggled with my decision to enter this program, Shannon encouraged me to follow my heart to pursue this dream and was always the perfect sounding board for my crazy ideas. I am grateful to be surrounded by such an amazing support network.

Table of Contents

List of Tables

List of Figures

# Chapter 1: Introduction to the Study

In the United States, the nonprofit segment creates positive social change and support in the form of donations. Financial support through gifts from individuals make up a significant percentage of revenue for most nonprofits (Ciconte & Jacob, 2009). In order to garner donations, nonprofit organizations must be able to cultivate interest in the organization's mission and sustain that interest (Tempel, Seiler, & Aldrich, 2011). As a new generation of donors are becoming the primary income producers in the United States, understanding how and why they give is critical to the financial health of the nonprofit sector. In this research, I focused on gaining a thorough and deeper understanding of Millennial generation philanthropy; specifically, how the social networking component of gamification may impact prospective and existing Millennial generation philanthropic financial contributions. This research topic was selected to help fill the gap in scholarly research in this area, to assist practitioners, and to positively impact the communities where nonprofits operate. Perhaps more impactful, the results of this study may provide a resource for nonprofit leadership to better communicate and create meaningful engagement with their Millennial prospects and donors. As a result nonprofit organizations may be able to raise the additional funds necessary to further their organizational mission.

This chapter provides an overview of the proposed study. The current literature relevant to gamification and Millennial giving is provided as background, along with the problem this research is addressing. The purpose and specific research question addressed in the study are explained. The conceptual framework consisting of seminal

theories in the philanthropic and motivational domains, current literature examining Millennial philanthropy, and gamification practices are used to delineate the study and provide the building blocks necessary to support the study's design. A high-level description of how the study was conducted and its scope and limitations are also included in this chapter. The chapter concludes with an explanation of my view of the significance of the study and how it may contribute to positive social change.

## Background

The literature related to the scope of this research spans multiple domains. Establishment of the conceptual framework for the study brought forward theories explaining why people give to charity and what motivates people to behave or act. Research is beginning to emerge in the domain of gamification design theory, particularly in the context of education. A subset of the theories used to explain why people give cross over to the foundational theories supporting the gamification design domain. In addition to background literature related to theory, literature on the topics of gamification (use and design elements), social networking, Millennial giving, and Q Methodology are used in support of this study.

The central theories that can be used to explain why people give include the theory of reciprocal altruism (TRA), social status theory, warm glow theory, the theory of planned behavior (TBP), and self-determination theory (SDT). Each of these seminal theories was used as foundational theory in more recent research referenced in this study. Warm glow theory was used by Curry, Roberts, and Dunbar (2013) in a study that examined the impact of the warm glow effect relative to social networking relationships.

Scharf and Smith (2014) utilized TRA to examine how the type and degree of closeness of a relationship within a social network affects altruism. The significance of this study on gamification research is that altruism increased the closer the person was to the center of the network, suggesting that an individual's relationship with the network is an important factor in their behavior within the network. In a 2012 study researchers examined the motivations around engagement levels within social networks, utilized TBP and SDT as the primary motivational factors driving user interaction (Vassileva, 2012).

Because gamification has only recently seen a rise in popularity, the literature containing a theoretical framework of how gamification apps can be assessed for effectiveness is somewhat limited (Seaborn & Fels, 2015). To date, the only theory linked to gamification in the literature is SDT (Seaborn & Fels, 2015). A limited number of conceptual frameworks have also been used in gamification research. Table 1 lists the theories and conceptual frameworks addressed in both the gamification and philanthropic domains.

Table 1

*Conceptual and Theoretical Foundations Used in Philanthropy and Gamification Research*

| Conceptual or theoretical framework | Used in philanthropy | Used in gamification |
|---|---|---|
| theory of planned behavior | ☐ | |
| warm glow theory | ☐ | |
| self determination theory | ☐ | ☐ |
| theory of reciprocal altruism | ☐ | |
| social status | ☐ | |
| Fogg behavioral model | | ☐ |
| intrinsic and extrinsic motivations | ☐ | ☐ |
| situated motivational affordance | | ☐ |

Gamification is highly dependent on social networking and as a consequence, literature examining the effectiveness and engagement factors surrounding social networks has an important role in establishing the framework and design of this study. Fortunately, a great deal of literature has been written regarding philanthropy, online giving and social networking and this literature was used extensively in the literature review.

## Problem Statement

Philanthropy is undergoing shifts in demographics and engagement preferences, as well as experiencing increasing pressures in maintaining individual donation levels (Curtis, 2013; Transparency Market Research, 2014; Urban Institute, 2010). The demographic shift nonprofits are faced with is due to the aging Baby Boomer population quickly being replaced by income producers in the segment of the population born between 1982 and 2000, known as Millennials or Generation Y (U.S. Census Bureau, 2014). Millennials numbered over 30 million of the United States workforce in 2015 (Feldmann, Hosea, Ponce, Wall, & Banker, 2015). Recently researchers have found that not only are the channels for giving used by Millennials different from past generations, but also what motivates them to give is unlike the motivating factors of their parents (Paulin, Ferguson, Jost, & Fallu, 2014). In 2013 online giving through websites and social media in the United States rose by 14% over the prior year to $2.1 billion dollars in online donations, while the number of active social media users exceeded 200 million (Carew Grovum & Flandez, 2013; Curtis, 2013; Walden University and Harris Interactive, 2011). Researchers examining the motivational factors involved in charitable

giving, suggested that unlike the popular opinion that Millennials are a self-centered generation, this cohort instead was found to be more likely to donate in the social networking context when others-benefit rationale rather than self-benefit was presented (Paulin et al., 2014).

Gamification is a technique that has become increasingly used by social networking sites to further enhance the engagement levels of its users (Burke, 2014b; Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011). This technique uses game components such as point scoring, competition with others, leader-boards, badges and quests in a nongaming context to provide a fun and engaging digital environment for people to interact within (Burke, 2014b). Gamification components can be embedded in most online applications and to name just a few of the many examples of possible applications, has begun to be used in online courses to help motivate students, in mobile phone fitness applications to reward healthy eating, by employers to encourage adherence to operating procedures (Burke, 2014b). In the context of connecting with Millennials, the addition of gamification components to a nonprofit's social media site, website or Twitter account, could provide an additional avenue of engagement and hence additional revenue possibilities. Although nonprofit sector leaders are beginning to understand how social media can influence donors, empirical evidence that gamification can positively influence Millennial philanthropic practices is absent from the literature (Hamari, Koivisto, & Sarsa, 2014). Further, research addressing what components of gamification that would be most applicable to philanthropy is not available. This gap in understanding

can prevent charities from connecting with their Generation Y donor base and maximizing their financial donations.

## Purpose of the Study

The purpose of this qualitative research is to provide U.S.-based nonprofit organizations with information to increase their understanding of how members of the Millennial generation perceive various gamification components and their impact on philanthropic (financial donation) behavior. Interviews in the form of Q Methodology sorts were conducted with 36 University of Arkansas Generation Y students. The results of this study could potentially contribute to raising the engagement level of Millennial donors within the nonprofit domain. This increase in engagement levels could have further social change implications, in that an engaged donor base has the potential to allow nonprofits to better achieve their missions.

## Research Question

The purpose of the following research question is to understand how gamification techniques may influence financial donations.

Central Research Question: How do members of the Millennial generation perceive that gamification would impact their philanthropic (financial donation) behavior?

## Conceptual Framework

This research brought together existing theories that explain human motivation, the preferred technologies used by Millennials, with the generalized characteristics of this cohort to construct a framework of what causes behaviors specific to Generation Y. The

concepts introduced in the TRA, social status theory, warm glow theory, and TPB all help explain why people are inclined to give to charity. These concepts, coupled with the behaviors of nonprofits and the motivational factors related to financial giving to nonprofits, complete the framework of concepts and theories that may explain Millennial philanthropy.

Figure 1 below is a graphical representation of the conceptual framework utilized to guide this research. The model depicts the merging of the seminal theories used to explain the motivational factors that contribute to behavioral changes, combined with the unique characteristics of the Millennial generation and the emerging technologies used by this generation. These factors combined with the behaviors of nonprofits and the factors that motivate people to give to charity, were used as a framework to help explain Millennial behavior and ultimately, Millennial philanthropy.

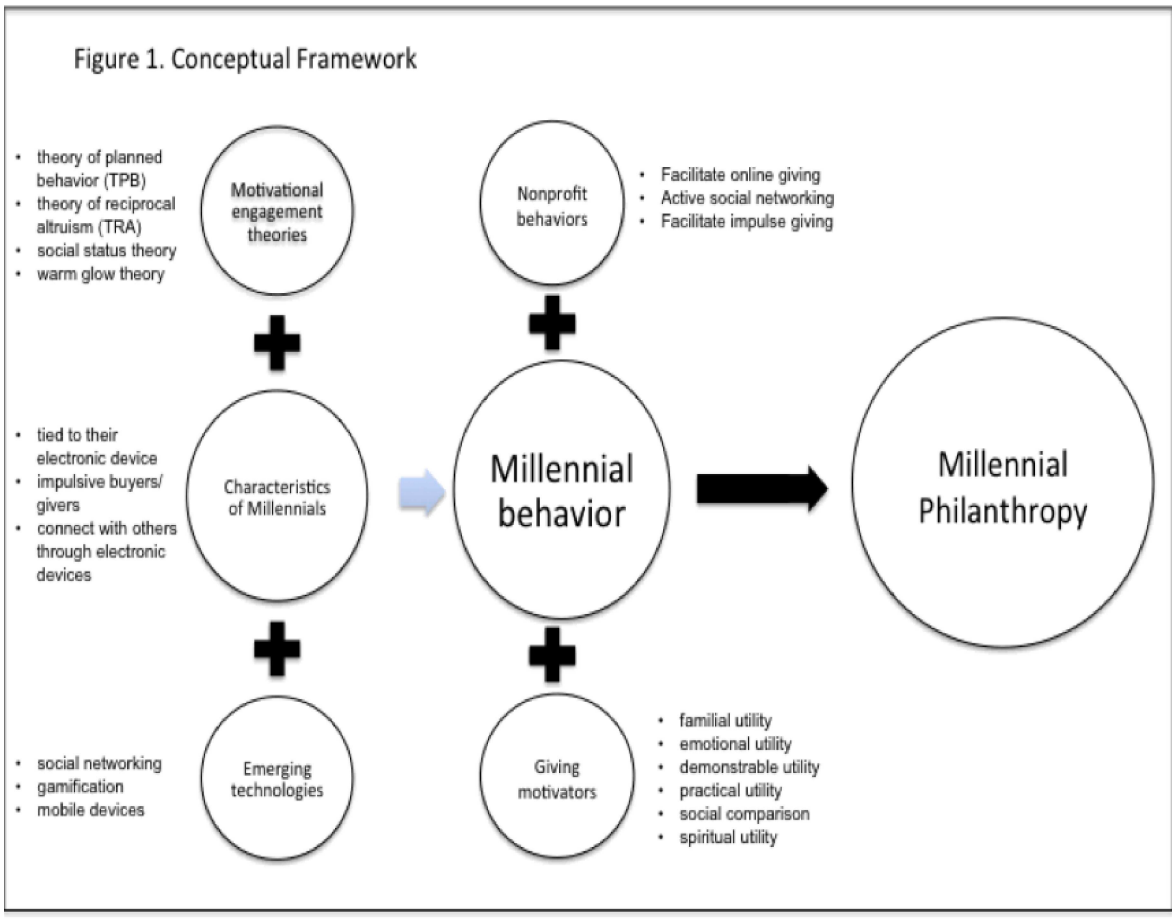


*Figure 1*. Conceptual framework.

Phenomenological study seeks to capture the shared views of a specific group of people to gain an understanding of what the group has in common with a particular experience (Creswell, Hanson, Plano Clark, & Morales, 2007). Although pure phenomenology requires the researcher to bracket themselves from their own experience and knowledge, Moustakas (1994) supported the hermeneutic phenomenological approach introduced by Heidegger (Laverty, 2003). This process consists of conducting an integrative and theoretical review of existing knowledge prior to data collection

(Moustakas, 1994). Therefore, keeping with the hermeneutic approach, I examined four seminal theories to explain why people give to charities in either monetary donations or volunteering their time. These theories are the TRA, social status theory, warm glow theory, and TPB.

The TRA can be used in the construct of both biological altruism and psychological altruism. Use of TRA in this dissertation refers to psychological altruism. TRA and its sister theory within the game theory domain, known as tit-for-tat, represents the notion that people are more likely to give to charity when they believe they will receive some form of future benefit (Okasha, 2013). A variable within the TRA framework is that people must interact with at least one other individual that they recognize as part of their network (Okasha, 2013). This TRA variable is important to understand in the context of the social networks established in a gamification environment.

Social status theory plays a role in this research because many gamification components use social status as a key motivator (Karlan & McMconnell, 2014). Warm glow theory holds that a subset of donors, give to charity based on the good feeling they get from donating, and are not necessarily motivated by pure altruism (Scharf & Smith, 2014). This research aimed to find ways to leverage warm glow by presenting the correct set of gamification components to the user.

The TPB can be used to help predict human behavior and posits that the degree of perceived behavioral control is positively correlated to the preferred behavior (Ajzen, 1991). Although TPB does not directly impact social networking or gamification

interactions, it can be leveraged in the context of understanding how perceived behavioral control may influence charitable giving.

## Nature of the Study

This research of how gamification can impact the philanthropic practices of Millennials used a qualitative method. The framework used for this study is Q Methodology (QM). QM provides a design that allows the researcher to explore the perspectives of the study participants, while using statistical measures (such as factor analysis) more commonly found in quantitative research (Shemmings & Ellingsen, 2012). The qualitative nature of this study took the form of a phenomenological study. Understanding the essence of the gamification phenomenon in the context of financial giving to charities is the focus of this study and translating the component parts of the gamification interaction with Generation Y users was accomplished through a phenomenological lens. QM practices are employed primarily to collect and analyze the collected data. QM was selected for this research over other methods because the design provides robust techniques well suited to capture the subjective opinions of participants, particularly given the opinions relating to the interaction between technology and a person (Cross, 2004).

## Definition of Terms

The following are terms that are used in this research and help to define and delimit the research.

*App:* A software application that typically runs on a mobile device ("Definition of app," 2016).

*Concourse:* In Q Methodology the concourse is the "flow of communication" that in total, describes a topic (Brown, 1993, p. 95). A concourse is not limited to the written word and can be a series of statements, audio recordings, or images (Brown, 1993).

*Condition of instruction:* In Q Methodology these are the instructions given to participants on how to think about sorting the Q-sort statements (Shemmings & Ellingsen, 2012).

*Extrinsic goals:* A person's goals that are primarily dependent on how they think others view them, and include financial wealth, recognition by others in the form of fame and image (Kasser & Ryan, 1996).

*Factor:* In Q Methodology this is the cluster of participants with similar rankings of Q sort statements (Valenta & Wigger, 1997).

*Factor loading:* In Q Methodology this is a number that represents each participant's correlation with the reported factor (Valenta & Wigger, 1997, Appendix A).

*Factor/statement score:* In Q methodology these scores reflect the degree of similarity or dissimilarity between statements (Cross, 2004; Valenta & Wigger, 1997, Appendix A).

*Game mechanic, element or component:* A mechanism within a game or gamification application that "governs a certain game element" (Adams & Dormans, 2012, p. 4). These are "the patterns, objects, principles, models and methods used" (Seaborn & Fels, 2015, p. 15). Examples include leaderboards, point systems, and badges.

*Gamification:* "the process of game-thinking and game mechanics to engage users and solve problems" (Zichermann & Cunningham, 2011, p. xiv).

*Human-computer interaction:* The knowledge domain that deals with the manner in which people use and interface with computing devices (Kim, 2015, p. 1).

*Intrinsic goals:* A person's goals that are internally motivated, such as personal growth, affiliation and community (Kasser & Ryan, 1996).

*Millennial, Generation Y, Gen Y:* An individual born between 1982 and 2000 (Feldmann et al., 2015; Toossi, 2009). Note there is not a single agreed upon span of birth years within the academic literature for this generation and authors may narrow the start and end dates somewhat. For the purposes of this research, the definition used by the U.S. Bureau of Labor Statistics is used.

*Q-sample:* The term used in Q Methodology to refer to the collection of statements derived from the concourse of information about a particular topic. The Q-sample is roughly analogous to the interview questions presented to a study participant (Shemmings & Ellingsen, 2012; Valenta & Wigger, 1997).

*Q-sort:* The term used in Q Methodology that refers to the results of a participant arranging Q-statements within a Q-matrix (Shemmings & Ellingsen, 2012).

*Social media:* An engagement platform powered by web-based and mobile technologies that allow users to interact with others (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011, p. 241). The characteristics that make social media unique from other media outlets are the ability for users to provide their own content, comment on other's content and engage in real-time discussions about the content (Kietzmann et al., 2011).

Current social media platforms include Facebook, LinkedIn, Twitter, YouTube, wikis, and blogs.

*Social network:* A group of individuals brought together by web-based or mobile technology, with the purpose of sharing, expanding and maintaining their network with others (Boyd & Ellison, 2007; Farmer, Bruckner Holt, Cook, & Hearing, 2009).

*Varimax rotation:* A method of orthogonal factor analysis rotation that simplifies factor analysis interpretation by differentiating the variables. Each factor ends up with a small number of large loadings and a large number of small loadings, maximizing the amount of explained variance (Cramer & Howitt, 2004; Watts & Stenner, 2005, Chapter 6). This method is commonly used in Q Methodology studies to analyze factors (Osborne & Costello, 2009; Watts & Stenner, 2005).

## Assumptions

The construct of this study is not without its assumptions. Relative to the formulation of the concourse for this QM study, I assume that all of the possible relevant gamification elements were captured. Despite both the concourse and the Q-sort statements being reviewed by a set of experts with practical experience in the implementation of gamification being consulted, it is conceivable that elements were not represented. It is also assumed that the participants from Walden University and UofA were a fair representation of the opinions of Millennials not attending a secondary educational institution. A further assumption is that the participants are familiar with the meaning of the gamification component statements contained in the Q-sort interview process. This assumption was planned to be validated during the 10 participant samples

conducted at the University of Arkansas in-person interviews. If Q-sort interview statements were found to be unclear to participants, they were reworded accordingly for the larger participant pool sample.

## Scope and Delimitations

To address the research question, the philanthropic views and the specific triggers for engagement of a subset of the general population, specifically individuals within the Generation Y cohort (born between 1982 and 2000), must be captured. Gen Y was chosen as the focus of this study based on their overwhelming acceptance of technology in their daily lives, their growing numbers in the U.S. workforce and their proclivity to use social networking as a means of connecting with others. Specifically, the research was conducted using respondents from the Northwest Arkansas area and within UofA student and faculty population who reside in the United States. Participants outside the United States were not used due to the focus on providing insight to U.S. based charities. The research is not measuring attitudes over time and therefore the need for a prolonged data collection period is not necessary.

Gamification experts posit that the player or personality type of the user dictates the gamification elements that generate the highest engagement levels (Bartle, 2011; Konert, Göbel, & Steinmetz, 2013). A vehicle to capture the player or personality type has not been factored into the design of this gamification study. As a consequence, it is possible that the sample of participants could represent a higher number of player types outside the norm of socializer player type or conscientiousness personality type. This could limit transferability of the study. Given that 80% of the gaming population is

viewed to be socializers, the likelihood of recruiting the more extreme player types is viewed as minimal (Bartle, 1996). However, to gauge whether the very nature of the research description and recruitment process may invite a greater number of player types other than socializers (*killer*, *achiever*, *explorer*), I asked those participants who indicated they were online gamers what their primary motivation was in the games they play. This helped me discern if a larger number of killer player types were volunteering for the study (Bartle, 1996). Killer types make up less than 5% of the population and are extrinsically motivated, where socializers, achievers and explorers are more intrinsically motivated and would likely be more inclined to engage in social philanthropic activities (Bartle, 1996; Kim, 2015; Zichermann & Cunningham, 2011).

## Limitations

The population used for purposive sampling, by its nature limits the age of participants. While UofA students under the age of 18 represented less than 1% of the student body in 2015, to avoid risk to minors, only participants older than 18 were recruited for the study. It is possible that Millennials within the 16 to 18 age group may have very different views regarding the various elements of gamification and their impact on philanthropy.

Another design element that may limit the generalizability of the study is the educational level of participant pool. Given the sample was drawn from Walden University participant pool and a University campus, the educational level of the participants limits the generalizability of the research results. The National Center for

Education statistics reported that only 34% of the U.S. population holds a Bachelor's degree or higher (National Center for Education Statistics [NCES], 2015).

The research design asks the participants to think about gamification elements relative to an unnamed nonprofit, rather than a specific nonprofit the respondent may or may not care deeply about. As a result, this research did not capture the level of emotional connection or engagement the participant had for a particular nonprofit or towards philanthropy in general. Additionally, the various gamification elements may resonate differently depending on the charity presenting the gamified app. For example, the appeal of special access game elements may be more meaningful to potential donors of a charity that could provide video access to a new school being built with donations, versus a leader board for an *a-thon* fundraising campaign. This limitation could be the basis for future research to determine the gamification elements most appropriate for a given charity or charitable event.

## Study Credibility

Unlike quantitative methods of study that use statistical significance to maintain reliability and validity, qualitative design instead uses a different set of tools to address validity and reliability. Validity can be addressed in qualitative study by focusing on the study's credibility. Credible research begins with the credibility of the researcher based on the researcher's knowledge of the area of study and self-awareness of their own biases (Burke Johnson, 1997). To enhance the credibility of the researcher, I have gained certification in gamification design by the Engagement Alliance gamification user group (Engagement Alliance, 2015). Another common technique to address credibility is by

incorporating alternative and rival explanations in the data analysis process (Patton, 2002, p. 553). Validity was also protected in this study by use of the individual interviews to triangulate findings from the focus group sessions (Patton, 2002).

Two other trustworthiness concerns of qualitative research are the transferability and dependability of the research findings. A common strategy in qualitative study to address transferability is the creation of a detailed description of the study's boundaries, assumptions, and limitations (Shenton, 2004). A thorough explanation of the research process conducted in the study has been used to help mitigate dependability concerns and can be found in Chapters 4 and 5.

## Significance

### Significance to Practice

Gamification has only begun to gain acceptance in the social media space in 2010 and not a great deal is known about its individual components and how it may trigger user engagement within the social networking domain (Deterding, 2011; Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011). The creation of gamification applications can be an expensive endeavor, requiring good design principles to maximize the investment made in the development (Burke, 2014a). Nonprofits have the choice of either developing their gamification app using their in-house development staff or outsourcing to a consultancy group.

Although the number of consultancy groups specializing in gamification is increasing, they currently number less than 25 (Software Insider, 2016). The consequence of so few gamification service providers available is limited competition

and higher fees. Gamification consultancy groups charge from $10,0000 to $250,000 for a gamified app (Enterprise Gamification, 2014). The cost of a gamified app depends on many different components. Factors to take into consideration include the type of graphics used, the number of levels and missions, whether integration into other systems managed by the nonprofit is needed (e.g., donation website), number of players and geographic reach (i.e., multi-language, legal requirements). Of course, nonprofits can choose to utilize their in-house development staff, however, gamification design requires understanding of many complex design principles to result in an effective app (Zichermann & Cunningham, 2011). In either case (in-house or contracted out) without a set of design principles that are known to resonate with donors, the cost of developing gamification applications could be prohibitive to most nonprofits.

This research is intended to explore the attitudes and behaviors of Millennials in the charitable donation process when gamification components are being used. The study results are likely to be relevant to fundraising and marketing professionals, as well as game designers in that targeting the game elements that resonate most with potential donors should enable more efficient design and ultimately save development dollars.

**Significance to Theory**

Scholarly research of gamification is just now moving from studying the overall effectiveness of gamified applications to focusing on the individual elements of gamification. As a consequence, development of theory on how individual gamification elements connect to the primary objective of the gamified app is scarce in the literature. For example, Landers (2014) developed the theory of gamified learning, where he tied

specific game characteristics and instructional content to the behavior and attitudes of the learner to predict learning outcomes. Evidence of similar theory creation related to gamification elements and philanthropy could not be found. This study's objective is not theory creation. However, I speculate that by narrowing down the gamification elements that are most applicable to philanthropy, the results of this study could aid in moving forward theory generation research in the philanthropic domain. A Pew Research Center survey of technologists found that 53% of the respondents believed gamification will continue to see significant adoption, and that further investment in gamification theory creation is warranted (Anderson & Rainie, 2012).

**Significance to Social Change**

According to Allison Fine, nonprofits "believe they can continue to operate with old assumptions in place so long as they have new online billboards they can use to broadcast their accomplishments" (Saratovsky & Feldmann, 2013, p. 6). The generational divide within organizations and between nonprofits and their communities is the biggest threat to the future success of most organizations." (Saratovsky & Feldmann, 2013, p. 6). In the United States, the nonprofit segment is the engine that creates positive social change, and support in the form of donations is the fuel that keeps this engine going. Individual donations are a major source of revenue for nonprofits. Of the $358 billion dollars given to U.S. charities in 2014, individual donors gave 72%, with the remaining from foundations, corporations and bequests (Charity Navigator, 2015). Recipient organizations range from health and human services (20% of total dollars), to environmental (3%), educational (15%) and arts, culture and humanities (5%; Charity

Navigator, 2015). Depending on religious philosophy, all or a portion of the 32% given to religious organizations can be viewed as revenue to help drive social change (Charity Navigator, 2015). Although not all nonprofit missions state a direct impact on social change, many nonprofits tackle major social change issues like immigration, gender equality, poverty, human rights, environment and climate change, civil and political rights, and violent extremism (Colón, Gibson, Lord, & Mannion, 2014). Enabling these social change nonprofits to better connect with their donor base can provide a framework for increasing individual donation revenues while establishing a long-lasting relationship with a new set of donors. An effective gamification campaign can also be used to provide targeted marketing to the community the nonprofit serves, further widening its reach and ability to fulfill its mission.

## Possible Types and Sources of Information or Data

Q Methodology requires information to be collected initially to form the Q-sort statements used in the participant interviews. This first step in data collection can be in the form of an initial set of interviews or by extensive study of the body of data related to the research topic (Shemmings & Ellingsen, 2012). The gamification study utilized the latter approach of establishing the Q-sort statements through and exhaustive review of the literature. Once the Q-sort statements were established, a form of interviews, known as Q-sorts was conducted with 36 participants from the UofA. The Walden participants were asked to utilize an online version of the Q-sort presented by the Q-Assessor web service. A second set of Q-sort interviews were planned with students attending the University of Arkansas, Fayetteville (UofA). The UofA set of interviews included the

online Q-Assessor Q-sort, plus live interaction with the researcher. Purposive sampling from Walden's participant pool and UofA was used as the sampling unit for this study. Participants were selected based on the relevance of their potential input to the study (Schwandt, 2007). For this study, students within the Generation Y cohort (those born between 1982 and 1998) were recruited. A roughly equal number of male and female participants were sampled.

Guest, Bunce, and Johnson (2006) concluded that a sample size of twelve individuals was sufficient to capture the shared beliefs, perceptions or behaviors of a homogenous sample group (p. 76). Based on this guidance, the gamification estimate of 36 participants was judged to be sufficient to capture the shared perceptions of the relatively homogenous group of Gen Y participants. With Walden University's 8,000 students falling in the Gen Y cohort and UofA's student body of over 26,000 students, obtaining an adequate number of participants was not viewed as a potential problem (University of Arkansas Office of Institutional Research, 2014; Walden University, 2015). Of UofA's 26,000 students, the vast majority (97% of undergraduates and 65% of graduate students) are between the ages of 17 and 30 (University of Arkansas Office of Institutional Research, 2014).

Given that the focus of this study was on the behavior of Generation Y, a screening question of the participant's age was included in the initial online interview introduction. Q Methodology interviews consist of asking the participant to place a series of statements in a predefined (by the researcher) grid that is designed to force a quasinormal distribution of responses. Each Q-sort grid opening can hold only one

statement and the grid ranged from slots for most impactful to least impactful (Rhoads, 2007). An integral part of the UofA Q-sort process included dialogue between myself and the participants to discover the participant's reasoning behind statement placement (Brown, 1993). A pattern of participant preference emerged through the process of matching various gamification component models with potential digital fundraising activities.

## Possible Analytic Strategies

One of the advantages of a QM study is that the researcher can leverage both qualitative and quantitative data types. The results of the Q-sorts were analyzed using QM software trusted by the community of QM methodologists, Q-Assessor (Reber & Kaufman, 2011). Q-Assessor was used to create reports including a correlation matrix, factor analysis and a composite statement array used to aid in the analysis of the collected data. The qualitative software analysis tool MAXQDA was used as the primary data management tool for the interview notes from the study and supported the analysis of literature, coding of focus group and interview sessions, and captured the researcher's perceptions, observations and potential areas of bias through memos.

## Other Information – Institutional Review Board

Institutional Review Board (IRB) approval was obtained from Walden University and the IRB study approval reference number is 07-14-16-0295542. The University of Arkansas IRB was contacted via email to determine if permission was required from their IRB to conduct interviews on campus. According to UofA's IRB, as long as the Q-sort interviews are conducted in public spaces on the UofA campus, no IRB approval is

required from the UofA (I. Windwalker, personal communication, July 27, 2016). The ethical standards reviewed by both IRBs to ensure justice, beneficence, and respect for individuals was addressed by the research design (Rudestam & Newton, 2007). Justice was achieved through the equitable selection of participants (Endicott, 2010). I had no direct ties to final set of UofA participants or the participants in the Walden University participant pool and participant selection was completely voluntary. To minimize the risk and satisfy beneficence, participant privacy and confidentiality was protected through the use of assigning codes to participant notes and participant names were not be used in the dissertation write-up (Rudestam & Newton, 2007). The Q-Assessor software package used to collect Q-sort data provided an option for the researcher to specify anonymous data collection procedures. Participants were able to opt-out of the interview or focus group sessions at any time. Informed consent best practices were used to ensure respect for persons is not violated (Endicott, 2010).

## Summary

In this research, I have documented the steps used to explore how the interaction of Millennials with gamification may impact financial giving to nonprofit organizations. Four theories related to the motivators of charitable giving were included in this chapter as they provide evidence of lack of direct theory related to gamification, as well as important clues to donor behavior in the nongaming context. Chapter 2 provides an in-depth explanation of each of these theories and how they have been used in the design of the study. The data collection and analysis tactics were outlined, including strategies for addressing dependability, credibility and transferability. A recap of the literature used to

inform the conceptual framework and research design can be found in the subsequent chapter of this document.

# Chapter 2: Review of Literature

## Introduction

Generation Y's philanthropic practices are vastly different from those of their parents. The preference for engagement through social media and gamification techniques has become evident (McCambridge, 2015). However, there is little empirical evidence that gamification can positively influence nonprofit giving by Millennials (Hamari et al., 2014). Nor is there research addressing what game dynamics would be most applicable to a philanthropic application of gamification. This gap in understanding can prevent charities from connecting with their Generation Y donor base and maximizing financial donations.

The purpose of this qualitative study is to provide information to U.S.-based nonprofits to enable an understanding of how members of the Millennial generation perceive gamification components would impact their philanthropic (financial donation) behavior, and encourage more charitable giving. In order to adequately fulfill the study's purpose, an assessment of what is known about Millennial philanthropy, gamification and its component parts, and what motivates people to give to charity is necessary. Chapter 2 is designed to outline the current scholarly knowledgebase in each of these domains and to highlight how this research can add to current set of knowledge. This chapter demonstrates the scarcity of literature addressing this question of gamification's influence on Millennial giving and how research to better understand gamification's relevance in philanthropy is a topic that is suitable for further study.

This chapter also explains the process I used to find relevant research. Given the focus on gamification, an in-depth definition of what gamification is, how it is currently being used, its effectiveness and criticisms are included within this chapter. Explored in-depth are the general motivators to charitable giving and the specific motivations found within the Gen Y cohort. The literature used to structure the study's conceptual framework, particularly the seminal theories employed, is also highlighted in this chapter. Finally, included in this chapter is the literature used to guide my selection of the appropriate design methodology.

## Literature Search Strategy

The current body of research does not specifically address the components of gamification as it relates to philanthropy. Consequently, the review of existing literature is focused on bringing together three distinct areas of study: (a) the predominant uses of gamification, (b) motivational factors for charitable giving, particularly within the Millennial age group, and (c) the effectiveness of gamification overall. Each of these areas of study can provide valuable insight into the philanthropic practices of Generation Y donors.

The development of the conceptual framework for this study utilized literature across multiple domains from the mechanics of gamification design to the psychology of giving to the public good. The databases of EBSCO (Academic Search Premier, Business Search Premier, Communication and Mass Media Complete, Political Science Complete), and ProQuest were used in conjunction with the Google Scholar search engine, and the Chronicle of Philanthropy were used to research relevant literature. The

literature search was conducted using a subject-based approach. Search terms used to construct the conceptual framework included motivations to give to charity, psychology of giving, online giving, Millennial philanthropy, Generation Y, Gen Y and Millennials, theory of planned giving, subjective norm factor, theory of commitment, theory of altruism, theory of reciprocity, theory of reciprocal altruism, social influence theory, warm glow theory, online giving, charitable fundraising and charitable giving, social networks and social networking, gamification, game design and gamification design.

Given the scarcity of peer-reviewed papers published in journals regarding gamification, proceedings from recent conferences were found to be a good source of information. The primary conferences providing relevant content include Computer Human Interactions, International World Wide Web, Institute of Electrical and Electronic Engineers and MindTrek. MindTrek is an international organization focusing on computer-human interaction, including gamification (MindTrek, 2016).

## Literature Review

### Millennial Giving

As Millennials become more financially independent, their giving habits and engagement preferences are beginning to be better understood by nonprofits. Five primary patterns in Gen Y giving practices have emerged: (a) impulsive giving, (b) mobile as the communication channel of choice, (c) event focused giving, (d) peer fundraising and crowd funding, and (e) giving in smaller increments, to a larger number of organizations (Saratovsky & Feldmann, 2013). Each of these patterns is important to

understanding how they may connect to gamification and its components and are further explored below.

Millennials grew up with the ability to act upon buying and information seeking impulses at the speed of their nearest electronic device (Eastman, Iyer, Liao-Troth, Williams, & Griffin, 2014). A couple of clicks on Amazon mobile gets them the new, cool gadget, while seeking out information on the specifications of that same gadget is also a few clicks away with a Google search. According to Hawthorne (2014), the lead researcher for The Millennial Impact, this impulse characteristic is not limited to Millennials' purchases, but also extends to charitable giving. It is critical for a nonprofit to both create the spark of inspiration that leads to the donation impulse, and be able to reap the benefits of that spark by having the technology available to facilitate the immediate donation. Gamification may be the vehicle to ignite that spark and this notion is fertile ground for further exploration.

As noted above, Gen Y is quite attached to their mobile devices and with 83% saying they even sleep with them, this is clearly a generation that relies on these devices to help manage their lives (Eastman et al., 2014). These mobile devices are used to connect Millennials with their social network of family, friends, coworkers, as well as the broader global community (Eastman et al., 2014). Nonprofits that understand this strong connection between Millennials and their devices can better leverage mobile applications, like gamified applications, that can encourage engagement and giving.

Technology has contributed to Millennials growing up with event focused charitable giving. Millennials from a young age have been exposed to fundraising events

for victims of natural disasters, to focused giving campaigns in the form "a-thons" (Saratovsky & Feldmann, 2013). The preference for these types of events have followed Gen Y into adulthood and are well suited to the type of peer endorsement that occurs within the context of social media. This interaction could prove to be well suited for the application of gamification to raise support, particularly for "a-thons," as these are typically time-bound and are predisposed to have a competitive dynamic to them. What could be viewed as somewhat of a paradox, research has found that while Millennials are interested in event focused campaigns they are not receptive to donation requests at charity events such as balls and galas (Saratovsky & Feldmann, 2013).

Fundraisers are beginning to see patterns in the way Millennials give. A common theme is the importance of peer influence in their charitable giving choices, particularly peer fundraising and crowdfunding (Gerber, Hui, & Kuo, 2013; Gose, 2013; Saratovsky & Feldmann, 2013). Castillo, Petrie, and Wardell (2014) found that Facebook donors asking others within their network to make a charitable donation is an effective means of fundraising. Castillo et al.'s (2014) key was that the process of making the donation must be very easy for the user and not require additional steps, for example not having to log into Facebook before making the donation. Crowdfunding is a means of raising money through an "open call" on the Internet (Colombo, Franzoni, & Rossi-Lamastra, 2014, p. 1). The Colombo et al. (2014) study examined the effect of internal social capital held by the project's proponents in the crowdfunding process, particularly the dynamic of early support (p. 7). Social capital can be viewed as the value assigned to the social network and can be seem as either externally derived, as is the case of an individual's network of

family and friends, or internally derived from the network itself (Harvard Kennedy School, n.d.). The researchers found that visible strong support early in a crowdfunding campaign is a predictor to the overall success of the campaign (Colombo et al., 2014). This finding is important to a potential gamified crowdfunding application as those gamification components that increase donor visibility could be leveraged to help reinforce early participation.

Feldmann et al. (2015) found that 84% of Millennial employees made a donation to charity (p. 9). Although this group includes a generous cohort of 37% giving more than $500 over the course of a year, the gifts were not given to a single charity, but instead to multiple charities in smaller dollar increments (Saratovsky & Feldmann, 2013). This preference among Millennials fits in well with both social network fundraising and by extension, gamified fundraising. A nonprofit's use of the correct game mechanics could possibly leverage this Gen Y preference to encourage a larger number of smaller donations by activating their social network.

Success in Gen Y fundraising requires a multichannel approach and must include a message that highlights a clear purpose for the nonprofit and details around how their gift will be used (Saratovsky & Feldmann, 2013, p. 134). Saratovsky and Feldmann, (2013) examined the channels preferred by Millennials to learn about the nonprofits they support, and found that 65% use the charity's website, 55% prefer social media, 47% rely on an e-newsletter, 17% prefer face-to-face communication, and only 18% prefer print (Saratovsky & Feldmann, 2013).

A 2015 study examined the behavioral factors that influence South Korean Gen Y giving related to the introduction of a small number of publically available gamified mobile applications. This study used a questionnaire with a seven point Likert scale, measuring three variables: (a) reputation, (b) emotional satisfaction, and (c) individual characteristics of charitable donation activity as they relate to the participant's awareness and involvement in gamified donation applications (Choi, Lee, & Kim, 2015, p. 792). The researchers found that 36% of participants that had a high emotional satisfaction related to charitable giving, viewed the gamification applications in a positive way (Choi et al., 2015). Similarly, 66% of participants that were identified as having reputation as their primary interest viewed the gamified applications positively (Choi et al., 2015). In contrast, 91% of participants associated with the charitable giving cluster had the most negative reaction to the gamification applications (Choi et al., 2015). This research appeared to have used sound statistical practices, however, the survey instrument referred participants to a handful of charitable gamification applications (TreePlanet, Freerice, Big Walk, Uniwalk, GiveTalk), each with a questionable quality relative to their engagement components. Because of this, the study's results may be more of a reflection on the quality of the gamified applications then on the notion of gamification used in a donation context.

A successful gamified philanthropic app requires not only good gamification design, but also design that considers the motives that drive people to want to give to charity. Understanding Millennial giving habits can enable nonprofits to develop the strategies necessary to better connect with this important donor base.

## Gamification

**Defining gamification.** Gamification has been defined simply as the use of game elements to turn "something not a game into a game" (Monjack, 2011, para. 5). Gamification is a relatively recent concept with its beginnings in 2003 when Nick Pelling introduced the use of game design to enhance the user interface of electronic devices. The term became more commonplace in 2010 when broader applications of the concept began to emerge (Deterding, Dixon, Khaled, & Nacke, 2011; Werbach & Hunter, 2012). The use of game design elements in a non-gaming context is the hallmark of gamified applications (Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011).

To more clearly delineate between the terminology games, gamification and serious games, a deeper explanation of the fundamentals of gaming is required. Game design elements are the various components of a game. Caillois, (2001) made the distinction between two play activities he referred to as *paidia* (playing) and *ludus* (gaming). Although not void of the play component, gamified applications tend to be closer to the gaming end of the Caillois continuum (Deterding et al., 2011). Ludus activities range from keeping score, assigning points, to taking turns, while paidia activities are less rule-based, encourage imagination and a free-flow of ideas (Caillois, 2001). Understanding where gamification falls on the continuum between gaming and playing is relevant to the discussion of which game design elements are most applicable to the gamified application in question and the desired outcome of the design element being leveraged.

The table below contains examples of common game design elements and their use in a nongaming, real-world context. Today's real-world examples of gamified applications also focus more on the gaming activities than on the playing (Deterding et al., 2011).

Table 2

*Game Design Elements*

| Game design element | Real-world application | Type of play activity |
|---|---|---|
| Levels | Frequent flyer programs | gaming |
| Leaderboards | Nissan Carwings program | gaming |
| Points/badges | Jillian Michaels fitness program | gaming |
| Challenges | Xprize challenge | gaming and playing |
| Rewards | 20% off nail service after 10 visits | gaming |

*Note.* Adapted from "For the Win: How Game Thinking Can Revolutionize Your Business" by K. Werbach and D. Hunter, 2012, p. 34. Copyright 2012 by Wharton Digital Press.

Another important concept in defining gamification is how gamification relates to serious games (Connolly, Boyle, MacArthur, Hainey, & Boyle, 2012). Serious games are game software that is wholly designed with the goal of educating or providing information rather than entertaining (Djaouti, Alvarez, Jessel, & Rampnoux, 2011, p. 25). Serious games are commonly used in the defense, education, healthcare, and public policy sectors and focus on educating, informing or creating a behavioral change (Bellotti, Kapralos, Lee, Moreno-Ger, & Berta, 2013). Serious game software is a complete game, as opposed to gamification, where individual design components of game design are used in the construct of a software application (Deterding et al., 2011). Hence, in the context of this study serious games are not considered to be a type of gamification.

On the other end of the continuum from serious games is what Rughinis (2013) called "proto-gamification", singular rationalized game components such as a status bar, that do not by themselves gamify an application and merely provide status (p. 4). Consequently, the existence of a proto-gamification component in an application does not create a gamification application. Instead, a gamification application is somewhere between a serious game and an application that has included a single game component.

Given the focus of this study is capturing the perceptions of users of the various game elements or components used in gamification, a definition of each of these elements and the common motivation game designers are targeting is in order. The group of gamification elements designed to motivate achievement and appeal to users interested in the collection game dynamic includes scoring systems and badges or trophies. Badges and trophies are virtual awards that users gain for accomplishments within a game (Zichermann & Cunningham, 2011). Scoring systems typically involve the user gathering virtual points for accomplishments (Seaborn & Fels, 2015). These points may or may not be used to compare achievement against other users in the game (Zichermann & Cunningham, 2011).

Competition gamification dynamics include leader boards and rankings and appeal to users motivated by social recognition (Seaborn & Fels, 2015). A leader board is a display of the game's users and their relative ranking based on the rules of the game (Werbach & Hunter, 2012). Another set of game components that is targeted at users motivated by social recognition, are ranks, levels, and reputation points (Seaborn & Fels, 2015, p. 19). Ranks or levels are awarded as users navigate the defined steps in the

progression of the game (Werbach & Hunter, 2012, p. 84). Ranks or levels may or may not be tied to a point system. For example, a user who completes a difficult task within the gamification app may be assigned a rank or level of 'grand master collaborator'.

Users motivated by cognitive stimulation are likely to respond to the gamification dynamic of challenges (Seaborn & Fels, 2015). These game elements typically involve time pressures, challenges and quests (Seaborn & Fels, 2015). Quests or challenges are predefined tasks that carry their own set of rewards to the user (Werbach & Hunter, 2012, p. 84). Another element under the umbrella of challenges is content unlocking. This element creates special access to the user based on their achievement of certain objectives defined within the game (Werbach & Hunter, 2012).

**Uses of gamification.** A 2014 study completed a comprehensive review of the existing literature related to how gamification was being used (Hamari, Koivisto, & Sarsa, 2014). Twenty-four studies were found with the majority of the studies focusing on educational applications of the technology, followed by work or intra-organizational focused studies (Hamari et al., 2014). No study had examined gamification as it related to philanthropy. Most of the gamification studies reviewed did address the motivational affordances related to applications' desired behaviors, further emphasizing the connection between gamification and behavior change. Seaborn and Fels (2015) provided a more recent survey of gamification literature, with an emphasis on highlighting the growing body of empirical gamification research. The researchers searched a total of 769 databases and found 31 participant-based studies (Seaborn & Fels, 2015). The topics of the 31 studies roughly followed the Hamari et al. (2014) literature review findings.

Education, health and wellness, sustainability, online communities, computer science and engineering, research and marketing were the topics of study (Seaborn & Fels, 2015). Again, gamification in the context of philanthropy was absent from their findings.

Gamification used for educational purposes continues to see growth, with it being used from primary school to university level applications (Rughinis, 2013). Renaud and Wagoner (2011) noted that the optimal use of gamification in an educational context is where the games supplement the classroom instruction and allow students to fail and recover without public embarrassment, as was introduced with Schoooools.com (Hanus & Fox, 2014; Simões, Díaz Redondo, & Fernández Vilas, 2012). Researchers have also found that gamified educational applications appear to work best in active learning situations, where active learners are the target audience (Glover, 2013). A subset of current examples of primary and secondary level gamified applications include Econauts (used to teach ecological concepts), Progenitor X (teaches problem solving using bio-medical tools to destroy zombies), Soul of a Place (educates users on the historical context and actions taken by the government during the Great Depression), and Anatomy Browser (help users explore the human anatomy; Games Learning Society, 2015).

Higher education has not been left out of the gamification trend, as there are quite a few gamified applications currently available, with a growing number addressing library science (Mallon, 2013). Examples of university level applications include the Mozilla Open Badges, which promotes online learning and Plagiarism Game: Goblin Threat, which helps students learn about plagiarism and explore common examples (Mallon, 2013).

Health and fitness products have also become active in their use of gamification (King, Greaves, Exeter, & Darzi, 2013). It has been estimated that 60% of employers plan on using some form of gamification to help incent their employees to a have a healthier lifestyle (Ferguson, 2012). A popular example is Higi, which provides a gamified application that connects to physical health stations in drug and grocery stores across the United States to track an individual user's health and fitness data (Higi, 2015). Another example is SlimKicker, which claims to use gamification to sustain the motivation to lose weight (SlimKicker, 2013). Not only are the start-ups getting on the health and fitness gamification bandwagon, but also the well-known brands like Nike, Fitbit, and Apple now have gamified applications (Buhr, 2015; Burke, 2014a; "Fitbit," 2013). These gamified apps are sometimes referred to as exergames and are becoming widely used not only in the U.S., but also globally (King, Greaves, Exeter, & Darzi, 2013). In addition to the proliferation of health and fitness applications, this industry had begun to merge the use of persuasive design with gamification, further expanding the reach of interactive health campaigns (Harjumaa & Muuraiskangas, 2014). From a global health perspective, FoldIt is likely the most famous use of gamification for health research. The game encourages non-scientists to crowd-source experimentation with folding proteins to find potential cures for Aids, Ebola, Alzheimer's, and cancer (Boyle, 2011).

Business use of gamification is also becoming more common. Blohm and Leimeister (2013) reported that 40% of the 1,000 largest companies in the world have implemented or are in the process of implementing gamification applications to enhance

business performance. Business and marketing examples range from the smart-design-contest, leveleleven from Salesforce for sales, freshdesk a customer support application that provides a gamified engagement engine to support customer support agents, and Deloitte's use of gamification for its leadership academy and (Daimler AG, 2015; freshdesk, 2015; Meister, 2013; Salesforce.com, 2015).

Gamification used for the social good and philanthropy appears to have not yet gained the traction found in the other domains outlined above. This does not mean that this domain is completely devoid of examples; the ALS ice bucket challenge is a good example of a successful use of social networking and gamification to raise funds (ALS Association, 2015). A newcomer to this space is Crowdrise, a commercially available fundraising application available to the public to help launch a gamification charitable donation campaign (Crowdrise, 2015).

The growing use of gamification is not limited to the United States. Use of this technology can be seen worldwide, as evidenced by an organizational effectiveness tool being tested in India, the e-learning application used as the base for a South Korean case study and another e-learning research project in Romania using the Fogg (2009) behavioral model (Lee & Lim, 2014; Muntean, 2011; Singh, 2012). These studies represent only a small fraction of the research currently being conducted in this domain. Scholars throughout the world are attempting to determine if gamification is merely the latest fad or something that will evolve over the long run.

**Effectiveness of gamification.** Gamification is being used in a growing variety of domains, with varying degrees of impact. Examples of the unsuccessful application of

gamification seem to be tied to the application design elements not matching well with the profile of the user or not taking into account whether the users are seeking intrinsic versus extrinsic rewards (Zuckerman & Gal-Oz, 2014).

Bartle (1996) helped the gaming world decipher why players react in different ways to the various dynamics contained in games. He categorized four different player types: (a) achiever, (b) socializer, (c) explorers, and (d) killers. These player types have been used by gamification designers to match game dynamics with the player types likely to use the gamified application (Bartle, 1996; Dixon, 2011). Kim (2015) extended Bartle's four player types for gamification, adding the philanthropist. The philanthropist is motivated by a purpose and exhibits altruistic traits (Kim, 2015). A nonprofit's ability to effectively engage with the philanthropist player type through gamification could be quite beneficial.

Konert, Göbel, and Steinmetz (2013) studied the use of the accepted Bartle player model used in gamification design with the NEO-Five Factor Inventory (NEO-FFI) personality inventory in predicting gamification engagement levels. NEO-FFI is a model used by psychologists to identify personality types and Konert et al. (2013) sought to determine if it could be used in lieu of the Bartle player model in the gamification domain. The researchers surprisingly found a generally weak correlation between Bartle player model and NEO-FFI. However, a strong correlation was found between Bartle's socializer player type and NEO-FFI conscientiousness personality types (Konert et al., 2013). Konert (2013) described the conscientiousness personality type as acting dutifully and planning-out behavior rather than acting spontaneously. Given Bartle (1980) claimed

that 80% of the population falls in the socializer player type, use of those gamification design elements that leverage planning and duty could appeal to this large subset of the population and help attract high gamification engagement levels (Konert et al., 2013).

It should be noted that gamification designers are beginning to question the applicability of Bartle's player types in the context of gamification (Dixon, 2011). New taxonomies of gamification player types are emerging and beginning to be empirically tested (Dixon, 2011). A promising model has been introduced by Marczewski (2013). This model segments player types by motivation of intrinsic rewards rather than extrinsic ones. Marczewski (2013) introduced four additional player types: (a) free spirits (motivated by autonomy), (b) networkers (motivated to increase their social profile), (c) exploiters (closest to Bartle's killer player type), and (d) consumers/ self-seekers (motivated by rewards). All of the new player types introduced by Marczewski (2013) with the exception of the free spirit, are primarily motivated by extrinsic rewards.

Zuckerman and Gal-Oz (2014) looked at the use of gamification to promote physical activity, specifically by using social comparison dynamics. This study found no significant difference in physical activity for those users of the gamified version of the test software versus the non-gamified version (Zuckerman & Gal-Oz, 2014). The researchers noted that the participants found little meaning in the points awarded to them via the game, which could partially explain why physical activity was the same for the gamified versus the non-gamified participants. Additionally, only a small subset of participants noted motivation based on the leader board. In this research, a leader board displaying the game's users and their relative ranking based on their physical activity

levels was used to test the effectiveness of the social comparison dynamic (Zuckerman & Gal-Oz, 2014). This finding suggests that matching the type of player defined by Bartle (1996) to the gamification dynamics used in the application could influence the engagement level of the users. Deterding (2011) also challenged the effectiveness of using leader boards in a pure nongaming application. His premise was that this game dynamic worked in true gaming situations because participation in the game is voluntary. The leader board dynamic loses its effectiveness when participation is not voluntary, as in scoring salesman on the number of sales closed in a quarter. Deterding addressed this problem with the introduction of a concept model that uses "situated motivational affordances" which relates the gamification features with the behavioral situation desired (p. 3).

Gamification was used in a recent study to determine if it could encourage content contributions in a crowdsourcing scenario. The researchers found a 75% increase in postings when users participated in the gamified version, over the nongamified implementation (De Franca, Vivacqua, & Campos, 2015). De Franca et al. (2015) focused on the design components of a gamified crowd-sourcing solution and asserted that because altruism is an intrinsic motivator, it is less likely to be influenced by others. Based on this assumption the researchers eliminated altruism from their crowd-sourcing game design. This dismissal of altruism in game design for crowd sourcing (which is easily extended to charitable giving), could be hasty due to behavioral triggers. The Fogg behavioral model used by game designers highlights the need for a trigger as the final step in influencing behavior (Fogg, 2009). The player type defined by Bartle (1996) as

the socializer makes up 80% of the population. Fogg posited that the socializer's trigger to intrinsic behavior is the ability to show their network what they are doing (Fogg, 2009). Due to the importance of altruism in the context of charitable contributions, intrinsic motivations and their triggers cannot be ignored in an examination of gamification and philanthropy.

**Criticism of gamification.** The criticism of gamification ranges from it being merely a fad that will eventually pass to being exploitive. Boulet (2012) likens gamification to the notion held in the early days of Web 2.0 that this new virtual environment would provide significant engagement advancements in the educational and instructional domains, which never came to fruition. Boulet is not alone in believing that people will become bored with gamification and that it too will be just another unsuccessful fad. A respondent in the Pew Research survey from the University of Wisconsin, Sandra Braman, best summarized this sentiment by noting,

> For all of the reasons that critics of game theory have identified over the years regarding its inability to capture the full range of human motivations, perceptions, cognitions, and practices, I believe there will be efforts to gamify much of what we do, but that much of that will just come and go as fads. (Anderson & Rainie, 2012, para. 19).

Glover (2013) asserted that in an educational setting, gamification, due to its primarily extrinsic reward system, could demotivate intrinsically motivated learners. To help mitigate this danger, he suggested that the use of gamification components be optional for the student (Glover, 2013).

Kim (2014) noted ethical issues with the use of gamification in the form of exploitation and manipulation. Some scholars and practitioners view gamification as nothing more than *exploitationware* in that the user receives only a small fraction of the benefit, where the sponsoring entity receives the majority of the benefit (Bogost, 2011; Kim, 2014). Kim's (2014) potential solution to exploitation is simply to ensure gamification designers actively seek feedback from their potential users to gain their perspective on the game dynamics. Regarding the criticism of manipulation, the fear raised is that because of the game dynamics, a user could easily lose the true objective of the application (and his or her moral compass) in the quest to gain points or top a leaderboard (Kim, 2014). Furthering claims of manipulation, research has shown that many of the tools used in gamified applications decrease intrinsic motivation, replacing it instead with the extrinsic motivators of the game dynamics (Hanus & Fox, 2014).

Bartle (2011) predicted that gamification will not last more than five or so years. He predicted that because of its focus on extrinsic rewards, which are typically worthless in the gamification context, people will eventual tire of playing for something worthless and begin to avoid gamified applications (Bartle, 2011). In contrast to Bartle's prediction, a 2012 Pew Research project surveyed over 1,000 knowledgeable participants (both advocates and critics) and reported 53% agreed that gamification will be wide-spread in 2020 and 42% predicted gamification will still be around but will have evolved to a larger phenomenon (Anderson & Rainie, 2012).

## The Motivation to Give

**Emotional utility.** Sargeant (2014) noted five primary motives today's donors use for giving to charity. The first is emotional utility, which is tied closely to the warm glow theory and provides the donor with a sense of heightened self-worth (Sargeant, 2014). This heightened sense of self-worth has been found to be further reinforced by giving within a social group and is attributed by an extension of warm glow theory known as relational warm glow (Scharf & Smith, 2014). Relational warm glow researchers asserted that when members of a tight social network are asked for charitable donations, the social network will respond due to altruistic motivation towards the members of the network (Scharf & Smith, 2014).

Scharf and Smith (2014) sought to determine if donation size correlated to the size of the social group. The researchers found that the number of donations was positively correlated with the group size, and the amount of the individual donation was negatively correlated with the size of the group (Scharf & Smith, 2014). In fact, the two dimensions of donation number and size, in aggregate canceled each other out. Although this study is relevant data in gamification design for fundraising, it should be noted that Scharf and Smith (2014) did not focus exclusively on Generation Y social networking users, and consequently the findings apply to the larger population of social network users.

**Familial utility.** Familial utility, another motivator to giving and reflects the notion that donors are more likely to give to a charity that they or someone in their network has a connection with (Sargeant, 2014). Networking is a prominent part of most

Millennial's life (Transparency Market Research, 2014). Couple this with Generation Y's preference for peer-to-peer (87%) fundraising and nonprofits might have powerful way to tap into familial utility (McCambridge, 2015). Scharf and Smith (2014) highlighted the relevance of both emotional and familial utility in charitable giving within social media.

Researchers examined in another study the effects of familial utility and surveyed 409 nonprofit organizations to determine the effectiveness of their use of social media tools (Curtis et al., 2010). Not only did the researchers confirm that social media is becoming increasingly beneficial to nonprofits, but they also discovered that male and female users interact with social media differently. The results of this study are important for two reasons. First, the findings further confirm the growing acceptance of the use of technology in fundraising. Secondly, the finding of gender interaction can be used to help shape focus group and individual interview questions.

**Demonstrable utility.** Demonstrable utility reflects that donors make a choice as to where their donations can do the most good (Sargeant, 2014). Donors use various strategies to determine which nonprofit is to receive their donations. Often donors rationalize their choices based on inadequate information and limit the amount of time they are willing to spend on making a donation decision (Breeze, 2010). With these factors in mind, donors may be more likely to rely on loyalty or authority to guide their giving decisions (Breeze, 2010, p. 42). Social networks, and by extension gamification, are well positioned to leverage both loyalty and authority.

**Practical utility.** Practical utility has two distinct dimensions to it. One is the dimension that a donation may have the benefit of giving the donor special access to the

charity or its facilities. The second dimension, and more applicable to this study is the donor may view a donation as creating a means of gaining social recognition for their donation (Sargeant, 2014). Karlan and McConnell (2014) sought to determine which of two public recognition motives were behind charitable giving in a social network: (a) improvement of donor's social status, or (b) ability to encourage others to give. The researchers found that if public recognition was the primary reason for giving, then increasing social standing was more important than signaling to others the importance of giving. The potential implication for gamification fundraising is that extrinsic rewards such as leader boards and badges that are visible to others may play a primary role in motivating donors. It should be noted that the Karlan and McConnell did not focus on a specific age group, and subsequent research has found that Generation Y may view this aspect of practical utility differently. In contrast to Karlan and McConnell, another research team found Generation Y donors to be more interested in making public the benefits donation recipients derive than the benefit the donor derives from public recognition (Paulin, Ferguson, Jost, & Fallu, 2014). Paulin et al. (2014) studied the motivational factors around charitable giving by Millennials. The researchers found that to successfully appeal to this cohort, nonprofits must highlight the benefits others would derive versus the benefits the donor would derive. This research was conducted in the context of social media, without the use of gamification. The research associated with this dissertation can enable the field of study to extend these findings to the gamification context.

An extension of the social recognition concept is that of social comparison (Harper, Li, Chen, & Konstan, 2007). In this 2007 study, the researchers used email to encourage users to rate movies on a website. They then tested whether the use of social comparison would motivate users to rate more movies. The researchers found no statistically significant difference in the participation of users who had knowledge of the participation by other users and those that did not. A notable difference was found between the reactions of men and women. Men were significantly more likely than women to go online and rate movies when they were told they were not performing as well as other men in the study (Harper et al., 2007). The findings of this study reflect an uncomfortable reality in research using technology. That is, this research was dependent on a form of communication (email) that by today's standards are viewed as much less engaging than the mobile and online applications available today. Although this study's applicability is somewhat diminished by its age, its finding of the importance of social comparison in a philanthropic-based game is germane. Other research in the area of social comparison dispelled the popular opinion that Millennials are a self-centered generation, in that this research found that Generation Y were more likely to give to charity within a social network when others-benefit rather than self-benefit was presented (Paulin et al., 2014).

A discussion of practical utility and social recognition should also consider perceived costs and benefits of peer-to-peer fundraising within the social network. A 2014 study found that the ease of connecting to others in their network significantly increases the likelihood of a donor reaching out to others in the network to join them in

making a donation (Castillo, Petrie, & Wardell, 2014). The Castillo et al. (2014) study found that users assigned a cost for the simple act of signing into Facebook to post information about their philanthropic donations and were 130% less likely to do so, compared with other participants who were already signed into Facebook. Gamification, designed correctly, could mitigate this perceived cost barrier, in that once a user is in the gamified application, the friction of signing in to a social application like Facebook could be removed.

Another aspect of social comparison that can help drive philanthropy is the notion that revealing donation amounts to others can prompt donors to give more. This assertion was addressed in a 2013 study analyzing the peer effect of disclosing donation amounts in an online fundraising campaign (Smith, Windmeijer, & Wright, 2013). This study found a correlation between an increase in the donation amount displayed on the website and a 25% increase in subsequent donations by website participants (Smith et al., 2013). Reinstein and Riener (2012) tested this same impact of revealing donation amounts but compared the impact of anonymous gift amounts to assigning donor names to gift amounts. It was found that the social network leader's donations were more impactful when their identity was known (Reinstein & Riener, 2012). This study also found that female leaders exerted greater influence compared with male leaders, an important distinction for nonprofits thinking about using gamification to engage donors (Reinstein & Riener, 2012).

**Spiritual utility.** Spiritual utility is the final motivation noted by Sargeant (2014) and ties to the donor's belief that the gift represents an expression of their faith. The

relevance of this motivation as a factor within Generation Y is in question. A dramatic shift in the size of the United States population claiming to be unaffiliated with a particular religion has occurred over the last several years. Millennials lead the way with 34% of this cohort reporting no affiliation, representing a 9% increase from 2007 (Pew Research Center, 2015). Although this decline within the Millennial population is significant, spiritual utility is not to be ignored as 65% of those that do have a religious affiliation, give to charity (Friedman, Miller, & Weinerman Steinberg, 2014). Based on a search of peer-reviewed studies, no studies were found examining gamification within the religious domain, however, given gamification's popularity and these declining religious affiliation trends, application of this mode of engagement may not be too far-fetched.

A 2010 study focusing on a broader world-view, rather than a specific country or region analyzed demographic factors to predict philanthropic behavior (Bekkers, 2010). Bekkers (2010) analyzed education, age, religion, and socialization factors. Some factors were found to be a predictor of charitable giving. However, three factors are of special interest to the gamification research. A higher level of education and a higher level of cognitive ability, along with having a prosocial personality were all found to be significant predictors of giving. Given this research project's participants were university students, the education level predictor must be taken into account to avoid research bias.

## Review of Conceptual Framework and Methods

My study used a qualitative method of research design and more specifically, the phenomenological method to better understand how the financial giving of Generation Y could be impacted by the use of gamification. In the phenomenological tradition, my

study sought to comprehend the shared views of a specific group of people to understand what the group has in common with a specific experience as recommended by Creswell, Hanson, Plano Clark, and Morales (2007). Although phenomenology requires the researcher to bracket themselves from their experience and knowledge, Moustakas (1994) supported the process of conducting an integrative and theoretical review of existing knowledge before data collection. QM also calls for the researcher to gain an in-depth understanding of the topic being study in order to appropriately define the concourse of study (Brown, 1993).

**Conceptual Framework**

The conceptual framework used for this study focused on five seminal theories used to explain why people give monetary donations to charity. These theories are the TRA, social status theory, warm glow theory, TPB, and SDT. Also, a more recent behavioral model developed by Fogg (2009) explains the elements that must be in place for a behavior to change.

TRA has been used to apply to either biological altruism or psychological altruism. For this study, TRA refers to psychological altruism and is used primarily for its sister theory *tit-for-tat* that can be applied to charitable giving (Okasha, 2013). Tit-for-tat predicts that a belief in a future benefit will cause people to give to charity. One of the variables in both tit-for-tat and TRA is that for the theory to apply, people must interact with at least one other individual in the network that they recognize (Okasha, 2013). Most gamification applications are based around a network of users, and consequently TRA provides a valuable lens to analyze participant network behavior.

This line of thinking was highlighted in a study by Scharf and Smith (2014) that utilized the TRA to examine how the type and degree of closeness of a relationship within a social network effects altruism. The significance of the Scharf and Smith (2014) study on gamification research is that they found that altruism increased the closer the person was to the center of the network, suggesting that an individual's relationship with the network is an important factor in their behavior within the network. Social status is known to be a key motivator in both philanthropy and gamification and as such the constructs of the social status theory can play a role in understanding how this dimension may impact user engagement when gamification is used (Karlan & McConnell, 2011).

The developers of warm glow theory stated that instead of pure altruism, a certain percentage of donors are philanthropic to obtain the good feeling they get from donating (Scharf & Smith, 2014). Curry, Roberts, and Dunbar (2013) conducted a study to determine the impact of the warm glow effect on social networking relationships. Although the Curry, Roberts, and Dunbar (2013) study did not specifically examine game-play dynamics between donors, it did provide valuable insights into the multi-dimensional structures of social networks. Curry, Roberts, and Dunbar (2013) research laid a foundational understanding of how online relationships in a social network are built and could perhaps be leveraged for fundraising. Using the theoretical concepts of warm glow as it relates to social networks can provide insights into potential ways to leverage warm glow theory through the appropriate set of gamification components.

TPB predicts human behavior based on the degree of perceived behavioral control an individual has and posits that the more perceived control, the more the preferred

behavior will be seen (Ajzen, 1991). TPB was used in my study to understand how perceived behavioral control could influence philanthropy. Vassileva (2012) outlined the various motivational theories related to social computing applications, including gamification. The author provided an overview of the primary theories asserted to drive user motivation, including the TPB and SDT.

Deci's seminal research on defining the macro SDT distinguished motivation between autonomous motivation and controlled motivation (Deci & Ryan, 1985; Gagné & Deci, 2005). SDT postulates that activities that are not interesting or intrinsically motivating require an extrinsic motivation. Based on SDT, the intrinsic motivations of relatedness, competence and autonomy drive behavior. SDT principles are important to understand in the context of gamification for nonprofits, as game components are likely to require a greater emphasis on the intrinsic motivators characterized within SDT. Vassileva (2012) posited that motivational theories can be aligned with game pattern designs such as leader boards, points, and badges. The social comparison theory was also used to explain why some users are motivated by leader boards. Additionally, Vassileva (2012) introduced a new set of theories to address human needs about online interaction, referred to as the needs and gratification theory. Although the author did not explicitly connect each motivational theory with components of gamification, it strengthens the connection between the seminal motivational theories and engagement practices employed by gamification designers.

Fogg (2009) took exception to the notion that all that is required to achieve a behavior change is perceived control or simply the motivation of warm glow. His

behavioral model consists of three steps, motivation, ability, and lastly a trigger (Fogg, 2009). Fogg asserted that without a trigger, motivation and ability are not enough to create the behavior (Fogg, 2009). This trigger concept is critical to gamification design in that engagement will not occur if the right set of triggers for the right player type is not properly employed. Table 3 outlines how each of the above noted seminal theories relate to the components of charitable giving.

Table 3

*Theories Supporting Motivations to Give to Charity*

| Components of giving | Warm Glow | TRA | Social Status | TPB | Gamification (initial thoughts) |
|---|---|---|---|---|---|
| Motivation | Intrinsic | Extrinsic | extrinsic | intrinsic &extrinsic | primarily intrinsic & some extrinsic |
| Donation process guided by: | Nonprofit | Nonprofit | nonprofit | nonprofit | nonprofit - establish different paths, and the donor chooses one path |
| Engagement | individual | network based | individual | individual | group based |
| Attitude of the donor | Active | Reactive | reactive | active | Proactive |
| Key motivator | feel good | future benefit | recognition | intention + ability | To be determined |

Note. TRA = theory of reciprocal altruism; TPB = theory of planned behavior.

**Review of Methods**

Both quantitative and various qualitative methods were reviewed as appropriate methods for this study. Hermeneutic phenomenological study was favored as it can approach a research question by focusing on the study participant's experience through the interpretation of the researcher (Creswell et al., 2007; Laverty, 2003). I chose Q Methodology based on the success of other phenomenological researchers using QM, particularly in the area of human-computer interaction. QM combines the qualitative

approach of understanding the perspectives of individuals with the quantitative statistical analytics of factor analysis (Shemmings & Ellingsen, 2012). Both phenomenological and QM approaches are consistent with my philosophical view of postpositivism, as they utilize systematic steps to analyze data while controlling for researcher bias (Moustakas, 1994). Also, preparation for a phenomenological and Q Methodology study required me to annotate my biases or assumptions so that these can be taken into account as the research is conducted (Laverty, 2003).

Three other approaches to this research topic were considered, case study and a quantitative approach utilizing a questionnaire. Table 4 outlines the various factors that were evaluated in determining which approach would be most appropriate for the gamification study.

Table 4

*Comparison of Potential Approaches to Research*

| Factor | Grounded Theory Study | Quantitative Study | Phenomenological Study | Q Methodology |
|---|---|---|---|---|
| Worldview alignment | Well aligned with researcher's postpositivism and pragmatism | Well aligned with researcher's postpositivism | Well aligned with researcher's postpositivism | Well aligned with researcher's postpositivism |
| Data collection approach | Interviews | Questionnaire | Interviews and focus groups | Q sort interviews |
| Sample population | Walden participant pool and UofA students (all Millennials) | Millennials | Walden participant pool and UofA students (all Millennials) | Walden participant pool and UofA students (all Millennials) |
| Advantages | • Has the potential to uncover rich qualitative data re. gamification<br>• Contribution to the scholarly community may be viewed as more valuable | • Likely requires less time to collect data<br>• Can collect data remotely via online instrument & use the Online Research Participation system<br>• Likely will be able to get a larger and more diverse sample | • Has the potential to uncover rich qualitative data re. gamification<br>• Contribution to the scholarly community may be viewed as more valuable | • Can collect data remotely via online instrument & use the Online Research Participation system<br>• Likely will be able to get a larger and more diverse sample<br>• Captures the self-referent perceptions of participants |
| Disadvantages | • Assumes gamification is the preferred social media vehicle to drive fundraising<br>• Will require face to face interaction<br>• More time consuming to collect data and conduct theoretical sampling<br>• Unclear if a theory will emerge | • Highly dependent on quality of the gamification component design; i.e., poor design could invalidate the research findings<br>• Would not result in analysis of the various gamification components and identifying which are best for fundraising; i.e., less utility for fundraisers & game designers | • Will require face to face interactions<br>• Not well-suited for computer-human interaction exploration | • Will require some face to face interactions<br>• Dependent on quality of Q-sample statements |

Based on the analysis of the four approaches outlined above, Q Methodology with a blending of phenomenology was selected. Quantitative method was deemed inappropriate due to the lack of theory within the gamification and philanthropy domain. Grounded theory was not selected based on my assessment that not enough is known about the effectiveness of gamification in the context of philanthropy and seeking theory to explain donor behavior must first be grounded in understanding the underlying elements of gamification in this context. Relative to using a pure phenomenological approach, a more robust method of evaluating the human-computer interactions present in gamification apps was required. QM provides this framework while subjectively measuring the attitudes of participants (Cross, 2004; Moustakas, 1994).

## Discussion Analysis and Conclusion

The literature available to provide a foundational understanding of gamification and how it relates to Millennial philanthropy has only recently begun to grow in both volume and richness of content. In constructing this framework an understanding of how gamification is currently used, its level of effectiveness, and its potential pitfalls are germane. Additionally, the dynamics of Generation Y giving patterns and their motivations for giving to charity are also important. As gamification becomes more prevalent as a research topic, a greater number of empirical studies become available to examine the phenomenon. Unfortunately, the examination of the phenomenon of gamification as a tool for philanthropy appears to be under-researched.

Empirical studies have found gamification to be effective in education, health and fitness, business and in limited cases fundraising. What is unknown is whether the

widespread use of gamification in fundraising can be effective given the seemingly divergent concepts of intrinsic motivations of donors giving to charity versus the more common extrinsic rewards within most gamification applications. The literature included in this chapter creates the major structural pieces of the foundation, however, the key element of connecting how Millennials experience gamification in the context of philanthropy and how the opposing intrinsic and extrinsic reward systems interact is absent from the literature. The objective of this study is to fill this gap in understanding by providing a detailed description of what Millennials experience when engaging in philanthropic gamification and how they experience the phenomenon (Moustakas, 1994).

In summary Chapter 2 laid the framework for the research design and results analysis. Through the literature review, the connections between Gen Y giving practices and gamification were highlighted. Peer-reviewed literature was also used to support the selection of Q Methodology for the research design. Also, the conceptual model described in this chapter was later used to analyze the research results in *Chapter 5*.

A detailed explanation of the research design used for this study can be found in Chapter 3. A discussion of the research methods used for data collection, sampling, data management and analysis procedures, a description of the population, ethical considerations including the protection of participants, and tactics for handling research is also included in the next chapter. Given the qualitative nature of the study, the researcher's role and subjectivity is also addressed.

# Chapter 3: Research Method

## Introduction

As outlined by Maxwell (2013) alignment of the research goal with the conceptual framework and research methods, while maintaining study validity is key to good research design. Within this chapter each of these elements in detail is outlined, concluding in the framework used in conducting the study. The goal of this qualitative study was to provide information to nonprofit organization leadership to enable an understanding of how members of the Millennial generation perceive how gamification components would impact their philanthropic (financial donation) behavior, and encourage more charitable giving. The conceptual framework used to guide the study consisted of a combination of seminal theories and recent research results regarding Millennials and their charitable giving habits. Included in this framework mix, is a discussion of Gen Y's preference for technical tools, such as mobile devices. The combination of the study's purpose and conceptual framework led to a qualitative Q Methodology design.

This chapter outlines the specifics of how the research study was conducted. A discussion of the research design selected and a less common data analysis and gathering technique, called Q Methodology (QM) was used for this study. An in-depth description of QM is also included. Chapter 3 also outlines a description of the sample size, participant selection criteria and instrumentation used. The procedures outlining the mechanics of the management of the interviews, the data collected and the data analysis steps can also be found within this chapter. A description of how I protected the study's

trustworthiness and ensured the study design upheld the highest ethical standards are included in the latter pages of this chapter.

## Research Design and Rationale

The research question of this study is how do members of the Millennial Generation perceive that gamification would impact their philanthropic (financial donation) behavior? To answer this question, the researcher must outline the many possible mechanisms of gamification that might influence a donor and use this broad set of information to gain insight into the personal point of view of the study's participants. The research approach chosen to accomplish gaining this insight is a qualitative method called Q Methodology (QM).

Although QM was first introduced in 1935 to address quantitative concerns relative to the analysis of the subjective viewpoints of study participants, its use in qualitative research as a method of data collection and analysis has become more widely accepted and used to answer qualitative questions (Brown, 1993; Cross, 2004; Shemmings & Ellingsen, 2012; Shinebourne, 2009). The essence of this research was to explore what aspects of gamification is personally significant to Gen Y users. Gamification apps are presented to users via an online interface typically through mobile devices such as iPads, tablets, and smartphones (Souppaya & Scarfone, 2013). To be successful, the software design for these apps requires the developer to be acutely aware of the effectiveness of the human-computer interaction (HCI) design components (Kim, 2015). As mobile devices become more and more commonplace and the software that runs on these devices become integral to running our daily lives, the emphasis on

understanding the dynamics of good HCI has resulted in a focus on research within this domain (Kim, 2015).

Qualitative researchers in the HCI domain have found the typical instruments of interviews and focus groups to be less than optimal in capturing the subjective insights of participants and translating these results to areas of consensus or disagreement (O'Leary, Wobbrock, & Riskin, 2013, p. 1). Recent HCI and technology researchers have discovered that QM can assist in overcoming this instrumentation shortcoming (Doherty, 2014; Mayer et al., 2014; Morton & Sasse, 2014; O'Leary et al., 2013; Orchard, 2014). The focus of QM is to "discern people's perception of their world from the vantage point of self-reference" (McKeown & Thomas, 2013, p. 20). The structure of QM allows the researcher to capture the personal point of view of the participant, removing the potential of participant fear of providing a right or wrong answer (McKeown & Thomas, 2013). One of the aspects of QM that makes it unique among other qualitative data collection and analysis methods is not so much the ability to capture many opinions, but how the opinions are captured and distilled to groups or themes surrounding the phenomenon studied (Cross, 2004). This study employed online interviews in the form of Q-sorts, where participants expressed their opinion by rank-ordering gamification components provided by the researcher. In addition to the pure online Q-sorts, a subset of interviews was conducted in-person to facilitate a real-time discussion with the participant in order to gain a deeper understanding of their reasoning behind how they rank-ordered the Q-sort statements.

It should be noted that QM in the research context does not lack its critics from two primary perspectives. Some scholars in the hermeneutical and phenomenological research domains question QM's adherence to qualitative traditions while qualitative scholars challenge QM's validity (Kampen & Tamas, 2013; McKeown & Thomas, 2013). The basis for some of the criticism by qualitative researchers is the perceived notion that due to QM's use of statistical tools (for example factor or cluster analysis), the researcher loses the ability to focus on the lived experiences of the participants and therefore violates the traditions of qualitative research. As a counter-argument to this criticism, QM practitioners strongly recommend researchers include qualitative interviews to accompany the Q-sort process (McKeown & Thomas, 2013). These interviews allow the researcher to gain insight on the reasons the participant sorted the Q-sort in the way that they did and provide the researcher with the type of in-depth understanding of the phenomenon being study required in qualitative research. The concern noted by some qualitative scholars over lack of qualitative analysis is understandable, as a 2013 study assessing 71 QM research studies published in 2010 found that a mere 17 included the use of any sort of explanatory narrative and only one used an explicitly noted qualitative method to evaluate the narrative (Kampen & Tamas, 2013). This potential shortcoming of QM was mitigated in this study by close attention to capturing the narrative of the participants and was an essential step in the design of this study.

# Methodology

## Overview of QM

Q-Methodology consists of five distinct steps. The first is to define what is known as the concourse of the topic, which includes documenting the possible subjective viewpoints of the domain being studied (Shemmings & Ellingsen, 2012). In the second step, the researcher focuses the concourse into a realistic number of statements (anywhere between 20 and 80) that are deemed to represent a variety of viewpoints and is roughly equivalent to creating the interview questions in a traditional interview instrumentation design (Shinebourne, 2009; Stephenson, 1953). This second step is known as creating the Q-sample, and includes the creation of the Q-sort grid that participants use to sort the Q-sample statements. It should be noted that the Q-sort grid is a quasi-normal distribution scale, with one side capturing the positive participant's viewpoints and the other side, their negative perspectives (Shemmings & Ellingsen, 2012). An example of a Q-sort grid can be found in Figure 2 below. Establishment of the number of participants used in the study is the third step of the QM process. QM methodologists refer to the population sample component of the study as the P-sample or P-set (Shemmings & Ellingsen, 2012). QM sample sizes are typically less than 50, and the participants are selected based on their relevance to the topic under study (Shemmings & Ellingsen, 2012). The fourth step is the administration of the Q-sort, where the researcher asks the participant to sort the cards into the Q-sort grid. As the participant completes the Q-sort, the researcher can interact with the participant and probe the reasoning behind the placement of the cards. This interaction provides the researcher with a greater depth of understanding behind the

Q-sort. The fifth and final step is to conduct the Q factor analysis, which is performed by using a statistical software program designed to analyze Q-sorts. It should be noted that Q-factor analysis does not aim to create a result that is generalizable to the overall population, but instead is used to see how participants' subjective viewpoints may be shared by other participants and as importantly, where viewpoints diverge (Shemmings & Ellingsen, 2012).

For this research, as part of the completion of step one, the various components of gamification that could be employed to engage with a potential donor were used to create the concourse definition. Step two consisted of narrowing down the concourse to 32 Q-sample statements. In the third step, the optimal P-set for this research was determined to be between 32 and 40. The administration of the Q-sort was conducted for this research using web-based third-party software, known as Q-Assessor. Q-Assessor was also used to complete the fifth step of data analysis.

**Participant Selection**

Participants were planned to include students and faculty attending the University of Arkansas, Fayetteville (UofA) and members of the Walden participant pool. It was planned to ask Walden participant pool respondents to complete an online Q-sort, made available online via a web-interface. UofA participants were invited to complete the Q-sort in a live interview with the researcher, as they complete the online Q-sort. This allowed the researcher to gain deeper insight into the participant's reasoning behind their Q-sort decisions. Purposive sampling was used to select the most relevant participants, including those of the appropriate age and a roughly even number of male and female

participants (Schwandt, 2007). The age of the participant was the primary criteria for sample selection. Only participants born between 1982 and 1998 were considered for this study.

The desired sample size from the Walden participant pool was 30. This number of participants provided an adequate cushion to meet the suggested QM P-sample size of 16 (Webler, Danielson, & Tuler, 2009). An additional 10 participants were to be selected from the student and staff population of UofA. Given the planned sample group was relatively homogeneous, the sample size of between 30 and 40 individuals was deemed to be sufficient to capture the shared beliefs, perceptions, and behaviors of the participants (Guest, Bunce, & Johnson, 2006, p. 76). A 2014 census of Walden's 49,290 students reported a population of a little over 8,000 students in the 24 to 29-year-old cohort with UofA reporting 94.8% of students falling within the Generation Y age group (University of Arkansas Office of Institutional Research, 2014; Walden University, 2015). Given these student populations, there was little concern regarding recruitment of a sufficient number of participants. However, achieving a balanced mix of male and female participants could have been a challenge given Walden's student population is 77.2% female (Walden University, 2015). As outlined later in this chapter, the need to balance gender based on Walden participants was not required, as the full sample size was made up of UofA participants. If the gender balance had been an issue, males made up 48.1% of the UofA student population in 2014 (University of Arkansas Office of Institutional Research, 2014).

The recommended participant size for QM studies ranges from a single case study to a P-set (sample of participants) of 60 (Rhoads, 2007; Shemmings & Ellingsen, 2012; Shinebourne, 2009). One point of view is to use a combination of the number of Q statements and an estimate of the number of perspectives that will result from the Q-sort to determine the minimum number of participants (Webler, Danielson, & Tuler, 2009). Webler et al. (2009) suggested a minimum of 15 participants for an estimated five perspectives and a 1:2 ratio between P-samples and Q-sort statements are normal in QM design (p. 23). This convention dictated a P-sample for this research of approximately 16 participants. A collective refrain from QM researchers is to plan for more participants than prescribed by this common practice, as the number of respondents loading on a single perspective cannot be known ahead of time (Cross, 2004; Shemmings & Ellingsen, 2012; Webler et al., 2009). The question of whether this sample size can adequately capture the spectrum of opinions about gamification components and therefore reach saturation cannot be known with certainty until data has been collected and analyzed (O'Reilly & Parker, 2013). To mitigate the risk of not reaching saturation, I increased the Q-sort sample size.

Participants from Walden were recruited through the virtual bulletin board established by the Walden University Center for Research Quality, known as the Walden Participant Pool. Any person associated with Walden University can utilize this tool, and participation is entirely voluntary (Walden University Center for Research Quality, 2015). After approval of both the Office of Institutional Research and Assessment (OIRA) and Institutional Review Board (IRB), a short description of the study, along

with any the eligibility requirements were posted online within the Walden Participant Pool website. When a potential participant indicated their desire to participate in the study, they were asked to click on a link that took them to the Q-Assessor webpage. It should be noted, that no external verification of participant's age occurred, and therefore it was possible that individuals outside the Gen Y cohort could have participated in the study. For the web-based Q-sort, I depended on the integrity of the respondent to honestly disclose their age. Verification of age for the UofA interviews was based on my judgment discerned from visual clues, and respondents were not asked to show official documentation of age (e.g., driver's license).

Recruitment for UofA participants occurred on the UofA campus in Fayetteville, Arkansas. With the permission of the institution, a table was set up with adequate signage during peak classroom hours, outside the Student Union Center. This location was a busy corridor during class hours and provided sufficient traffic to recruit participants. The signage included a short description of the study, eligibility information and the offer of a $5 Starbucks gift card. This $5 incentive was viewed more as a gesture of thanks to the participant rather than a direct incentive to participate. Although the federal policy for the Protection of Human Subjects (also known as the Common Rule) requires researchers to avoid coercion or undue influence, the Common Rule does not supply a definition of coercion or undue influence. As a consequence, payments to research participants is debated within the scholarly community (Head, 2009). Many researchers view nominal amounts (such as five dollars) as not significant enough to

violate the Common Rule and this view was used to support the use of the gift card for this research (Largent, Grady, Miller, & Wertheimer, 2012).

**Instrumentation**

The instrumentation in QM research consisted of three components. The first was the set of Q-sort statements. These statements can be viewed as being analogous to interview questions developed for a typical qualitative study (Shemmings & Ellingsen, 2012). Instead of questions, the Q-sorts are a series of statements that the participant is asked to react to and place on the Q-sort grid. Each statement is constructed to be self-referent, where the statement cannot be construed as right or wrong by the respondent, but instead, simply represent his or her viewpoint on the statement (Shemmings & Ellingsen, 2012, p. 417). The list of Q-sort statements for this study can be found in Appendix A.

The Q-sort grid itself can be considered as part of the QM instrumentation, as the grid provides a mechanism for the respondent to place only one Q-sort statement in each empty grid space (Rhoads, 2007). Grid spaces on the most left-hand side of the grid were spaces provided for the respondent to place those statements that he or she believed least likely to influence charitable giving and those on the most right-hand side, most likely to impact charitable giving. The grid spaces in the middle of the grid were for those statements that the respondent considered more neutral. The number of spaces and their distribution within the Q-sort grid varies depending on the study and are designed by the researcher (Brown, 1993). The configuration of the grid must reflect the researcher's assessment of the expected distribution or how flat or steep the distribution should be

(Brown, 1980). For example, if the topic is highly controversial and it is expected that the sample population will have strong opinions on either side of the subject, the grid distribution should likely be flatter (i.e., smaller number of 0 or neutral grid locations in the middle) than if the respondents are somewhat uniform or potentially less interested in the topic (Brown, 1980). Because gamification and charitable giving were not controversial issues, nor topics that Gen Y participants would naturally have a keen interest in, a more standard Q grid was used. Regarding the range of the distribution grid, Brown (1980) recommended that a +4 to -4 range was appropriate for a Q-sample of fewer than 40 statements.

An example of the Q-sort grid used for this study can be found in Figure 2. Note that the grid creates a platform for a quasi-normal distribution of Q-sort statements, where one side of the grid represents agreement with and the other side disagreement with the Q-sort statement (Rhoads, 2007; Shemmings & Ellingsen, 2012, p. 419).

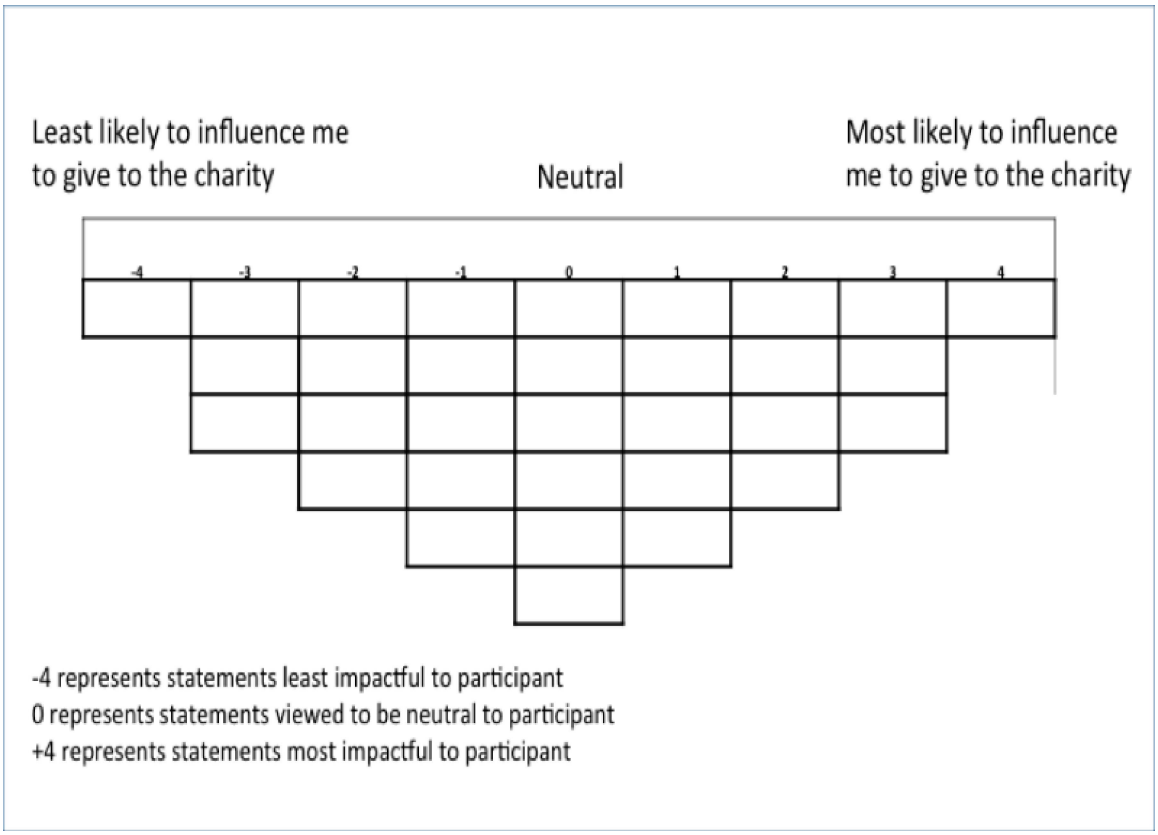


*Figure 2*. Q-sort grid.

The third element of the QM instrumentation was the condition of instruction given to the participant. The participants were asked to complete the Q-sort for each condition of instruction, and this allowed the researcher to gain insight into the respondent's perspective on the topic based on the different instructions given (Rhoads, 2007). A Q-sort can have multiple conditions of instruction. However, this study utilized only two. The two conditions of instruction initially used for this study was:

1. Sort the statements based on what you believe most Millennials would say
2. Sort the statements based on your personal opinion

The three elements of the QM data collection instrument outlined above provided a systematic method of capturing the different viewpoints of Millennials. The sufficiency

of the Q-sort statements depended greatly on the depth of the concourse of information regarding gamification techniques. This concourse was derived from multiple sources to strengthen its quality and completeness. Reviews of gamification design from peer-reviewed literature was a significant source in establishing the concourse, augmented by commercial literature aimed at training gamification developers, my certification as a gamification designer and lastly expert reviews of the resulting Q-sample statements. These sources confirmed the common elements of gamification currently used by designers to be points, levels, rankings, rewards (including badges and achievements), progress-bar, competition, avatars, time limits, collaboration, unlocking items, and missions (De Santana et al., 2016; Silpasuwanchai, Ma, Shigemasu, & Ren, 2016). Each of these common elements was represented in the Q-sample and consequently, enabled an understanding of the value Millennials place on a particular gamification component.

**Procedures for Study**

Online study participants were recruited from Walden's participant pool. Participants of the live Q-sort interviews were recruited from the UofA student body on the UofA Fayetteville, AR campus. UofA recruiting measures consisted of a combination of flyers and posters inviting Gen Y students to participate. A $5 Starbucks or Chick-fil-A gift card was offered to participants.

The online study consisted of a two-step process. The first was recruitment via Walden's participant pool, where once a potential respondent signed-up for the study, they were taken to the Q-Assessor site. Assuming respondents agreed to the informed consent found on the Q-Assessor site, four initial questions were asked to confirm

eligibility and capture minimal demographic information about the participant. The questions were as follows:

1. What year were you born?
2. Do you live in the United States?
3. Which gender do you identify with? Male or Female
4. Please select ethnicity of origin (or race)
    - African American or Black
    - Asian or Pacific Islander
    - Latino or Hispanic
    - Native American or American Indian
    - White or Caucasian
    - Other

If the respondent provided a year of birth outside the range of 1982 and 1998 or did not reside in the United States a message thanking the respondent for their interest and notifying them that they were not eligible for the study was displayed, and the Q-sort interview was not enabled. Question two was designed to ascertain if the potential participant was within the Gen Y cohort. The response to question three regarding the participant's gender did not automatically disqualify the participant, however, as participants completed their Q-sorts, I had the option to decide to limit future participation to a single gender to balance potential gender bias in the Q-sort results. Response to question four was not mandatory and was used in later data analysis.

The second step in the online study directed the participant to the online web-based Q-sort. A link was provided on the Q website, with a participant number. The participant was then asked to perform two Q-sorts, each with a different condition assumption. The first Q-sort condition was for the participant to react to the Q-sort cards from the perspective of how he or she believed the general population of Millennials would respond. The second condition requested of the participant was to sort the cards according to their personal perspective. For each condition, the participant was asked to sort the Q-sort cards by considering how much each statement would tend to prompt them to make a donation to a particular charity using the technique noted on the card.

The UofA face-to-face interviews were planned to follow the Walden participant pool process. Instead of online screening, I asked the potential participant the two screening questions. If the potential participant was a good match, I provided an iPad to the participant and asked the participant to complete the online Q-sort at that time. The Q-Assessor system assigned a participant ID to the participant and provided instructions as to how to complete the Q-sort. As the participant was completing the Q-sort, I observed and explored the reasoning behind the placement of the Q-sort cards with the participant. During this interaction, I was seeking to understand, through dialogue with the participant, his or her reasoning behind their Q-sort choices. The intention was the discovery a deeper understanding of why the gamification components resonated with the participant (Shemmings & Ellingsen, 2012). This dialogue also allowed me to discover possible misinterpretation of Q-sample statements that can later be modified for future online interviews.

Data collection occurred over the course of one month. Three UofA sessions were conducted over the duration of the 30-day data collection period. These sessions were planned in the opening 15 days of the 30-day period. The Walden participant pool recruitment was available ten days prior the live UofA interview sessions.

A fallback plan was outlined if I was unable to get the full 30 to 40 participants as expected or if a roughly equal mix of male and female participants was not attained. This plan included extending the Walden participant pool collection dates and adding additional live UofA interview sessions. Given the nature of QM, no follow-up interviews were planned, as techniques such as triangulation and respondent validation are built into the QM process (Maxwell, 2013).

At the conclusion of the online Q-sort interview, the participant was thanked for their participation and asked a single interview question asking if they think there are any other game components that may impact their engagement level with a nonprofit and if so, were asked to comment on what those components are. The UofA participants were also thanked and asked to look at their Q-sort statement rankings for any general observations they may have. The follow-up question of identifying additional game components that were missed was also asked. UofA participants were given the $5 gift card of their choice, between Starbucks and Chick-fil-A.

**Data Analysis Plan**

As with other qualitative methods, QM seeks to understand the point of view of the respondent's perspective. However, instead of mining themes from the researcher's analysis of interviews, QM utilizes the results of the sorting process to derive factors

(Shinebourne, 2009). One of the things that makes QM a robust methodology is that although its processes are rooted in the qualitative tradition, it uses quantitative tools to aid the researcher in seeing patterns in the data (Valenta & Wigger, 1997). However, unlike most quantitative analysis, QM statistical analysis is done by individual rather than by variable and correlations are made between participants with similar and disparate opinions (Valenta & Wigger, 1997).

The QM data analysis for this study began with the results of the Q-sorts being translated into numerical terms. The Q-sort responses range from a plus 4 to negative 4, depending on where the participant placed the Q-sample card. Cards placed in the middle column of the Q-sort matrix received a value of zero. Figure 3 is an example of a completed Q-sort grid by a single participant and for this example, this was considered participant 1's Q-sort.

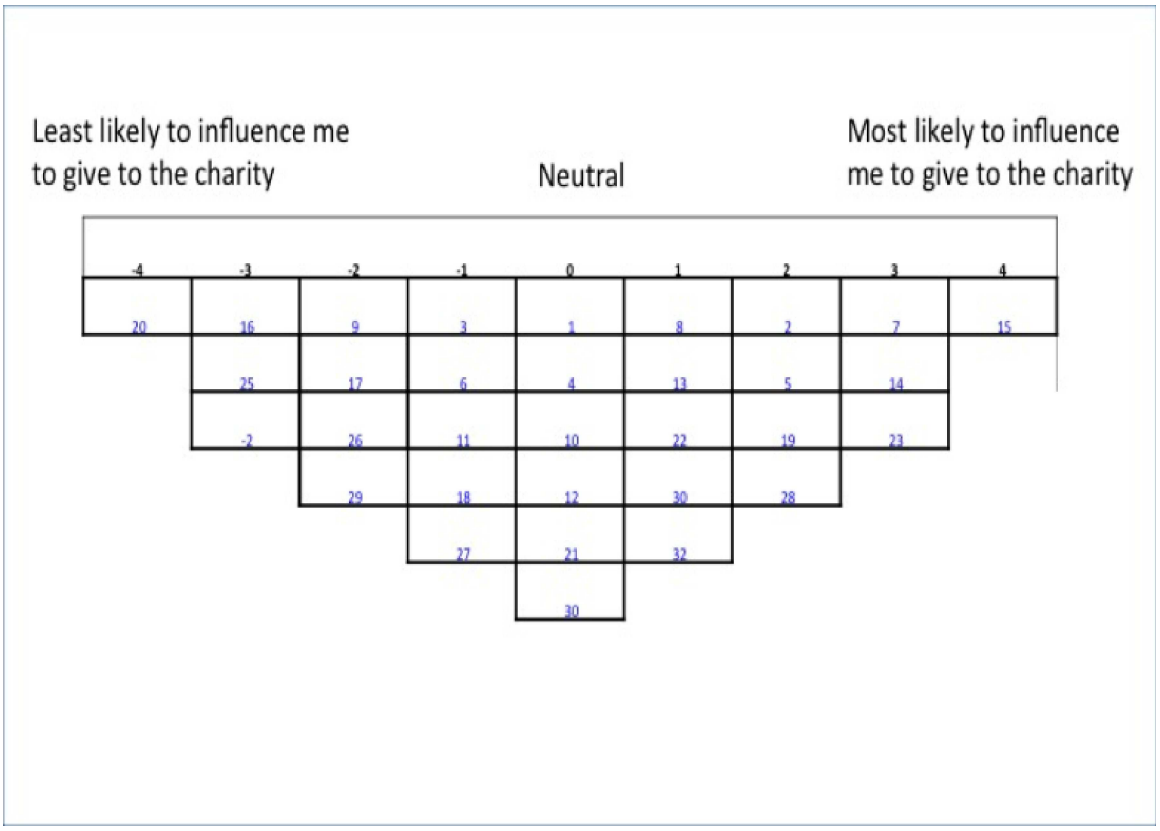


*Figure 3.* Example of completed Q-sort grid.

The next step in the data analysis process was to record all of the participant's responses in a single view. A sample of what a Q-sort response table might look like is contained in Table 5 below. Note the data in this Table 5 is fictional and used only to illustrate the analysis process for recording the Q-sort results. Participants are listed across in the columns and the Q-sort items are listed going down the matrix on the left. The response by each participant can be found across each row of Q-sample items.

Table 5

*Sample Q-sort by Respondent*

| Respondent/ Q sample item | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | ~ 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 4 | 3 | -1 | 4 | 3 | 2 | 4 | 0 | -1 | 3 | 1 | -1 | 1 | 0 | 0 | -2 | -1 |
| 2 | 2 | -2 | 2 | 0 | 1 | -1 | -4 | 0 | 1 | -1 | 3 | 2 | 1 | 0 | -4 | -2 | 1 | 3 |
| 3 | -1 | 0 | 0 | 2 | 0 | 0 | -2 | 2 | 1 | -2 | 4 | 3 | -1 | 2 | -3 | -1 | 1 | 1 |
| 4 | 0 | 4 | -1 | -1 | 4 | 2 | 2 | 1 | 3 | 2 | 2 | -2 | -3 | -4 | 0 | -1 | -2 | -2 |
| 5 | 2 | 1 | 0 | 3 | 2 | 0 | 1 | -1 | 0 | -2 | 1 | -1 | -3 | -2 | 1 | 2 | 4 | 0 |
| 6 | -1 | 3 | 1 | -2 | -1 | 4 | 0 | -4 | 4 | 0 | -2 | 0 | 0 | 4 | 3 | 1 | -3 | -1 |
| 7 | 3 | -2 | -4 | 0 | -2 | -1 | -4 | 0 | -2 | 3 | -1 | 4 | 3 | -1 | 2 | -2 | -2 | 0 |
| 8 | 1 | 0 | 3 | -4 | 3 | 2 | 2 | 2 | 2 | 2 | 0 | -4 | -1 | 1 | 4 | 3 | 3 | 1 |
| 9 | -2 | 4 | -2 | -3 | -4 | 3 | 3 | -2 | -1 | 4 | -2 | 0 | -1 | -2 | -2 | 4 | 3 | 3 |
| 10 | 0 | 1 | 3 | -1 | 4 | -4 | -1 | 0 | 0 | -4 | 1 | 1 | -2 | 3 | -1 | -3 | -1 | 4 |
| 11 | -1 | -3 | -3 | -1 | 1 | 3 | 0 | -2 | 1 | -3 | -2 | 2 | 2 | -3 | -2 | -4 | 4 | -3 |
| 12 | 0 | 1 | 3 | -1 | 0 | -1 | 2 | 4 | 1 | 3 | 3 | 3 | 1 | 1 | 2 | 0 | -0 | -2 |
| 13 | 1 | 1 | 2 | 0 | 4 | 0 | -4 | 0 | 0 | -1 | 3 | -2 | 0 | 0 | 0 | 2 | 0 | -1 |
| 14 | 3 | 4 | 0 | 2 | 2 | 2 | -2 | 2 | 3 | -1 | 4 | -1 | -1 | 2 | -4 | 1 | -2 | 2 |
| 15 | 4 | 3 | -1 | -1 | -1 | 0 | 2 | 1 | 1 | -2 | 2 | 0 | 1 | -4 | -3 | 3 | 1 | -4 |
| 16 | -3 | -2 | 0 | 3 | -2 | 4 | 1 | -1 | 1 | 2 | 1 | 4 | -1 | -2 | 0 | 0 | 1 | 0 |
| 17 | -2 | 0 | 1 | -2 | 3 | -1 | 0 | -4 | 3 | -2 | -2 | -4 | -3 | 4 | 1 | -2 | -2 | 1 |
| 18 | -1 | 4 | -4 | 0 | -4 | 2 | -4 | 0 | -2 | 0 | -1 | 0 | -3 | -1 | 3 | -1 | 4 | 3 |
| 19 | 2 | 1 | 3 | -4 | 4 | 3 | 2 | 2 | 4 | 3 | 0 | 1 | 0 | 1 | 2 | -1 | -3 | -3 |
| 20 | -4 | -3 | -2 | -3 | 1 | -4 | 3 | -2 | -2 | 2 | -2 | 2 | 3 | -2 | 4 | 2 | -2 | -3 |
| 21 | 0 | 1 | 3 | -1 | 0 | 3 | -1 | 0 | 2 | 4 | 1 | 3 | -1 | 3 | -2 | 1 | 3 | -2 |
| 22 | 1 | 3 | -3 | -1 | 4 | -1 | 0 | -2 | -1 | -4 | -2 | -2 | -1 | -3 | -1 | -2 | 3 | -1 |
| 23 | 3 | -2 | 3 | -1 | 2 | 0 | 2 | 4 | -1 | -3 | 3 | -1 | -2 | 1 | -2 | 3 | -1 | 2 |
| 24 | -3 | 0 | 2 | 0 | -1 | 2 | -4 | 0 | 1 | 3 | 3 | 0 | 2 | 0 | 2 | 4 | 4 | -2 |
| 25 | -3 | 3 | 0 | 2 | -2 | 0 | -2 | 2 | 1 | -1 | 4 | 4 | 1 | 2 | 0 | -3 | -0 | 0 |
| 26 | -2 | -2 | 2 | -1 | 3 | 4 | 2 | 1 | -3 | -1 | 2 | -4 | 0 | -4 | -4 | -4 | 0 | 1 |
| 27 | -1 | 0 | 0 | 3 | -4 | -1 | 1 | -1 | 0 | -2 | 1 | 0 | -1 | -2 | -3 | 0 | -2 | 1 |
| 28 | 2 | 4 | -1 | -2 | 4 | 2 | 0 | -4 | 1 | 2 | -2 | 1 | 1 | 4 | 0 | 2 | 1 | -1 |
| 29 | -2 | 1 | 0 | 0 | 1 | 3 | -4 | 0 | 1 | -2 | -1 | 2 | -1 | -1 | 1 | 1 | 1 | 3 |
| 30 | 0 | -3 | 1 | -4 | 0 | -4 | 2 | 2 | 3 | 0 | 0 | 3 | -3 | 1 | 3 | 3 | -2 | 1 |
| 31 | 1 | 1 | -4 | -3 | 4 | 3 | 3 | -2 | -2 | 3 | -2 | -2 | -3 | -2 | 2 | 0 | 4 | -2 |
| 32 | 1 | 3 | 3 | -1 | 2 | -1 | -1 | 0 | 4 | 2 | 1 | -1 | 0 | 3 | 4 | -2 | -3 | 0 |

The individual participant results are then inter-correlated with other participant results creating a correlation matrix. The correlation matrix shows which participants sorted the Q-sample cards in a similar order and if there is a significant divergence in perspectives.

The correlation data is then used to create a factor analysis, reflecting groupings of data and clusters of opinions, known as factor loading. Although QM data analysis can be accomplished through manual calculations a software package, Q-Assessor, was used to collect not only the results of each Q-sort but also to perform the statistical calculations used in the QM process (Q-Assessor, 2015a). The QM software was also used to create a composite statement array of responses, which uses a weighted averaging of statement scores.

The Q-Assessor program was selected from a variety of available QM software packages. A subset of these packages addressed only the data analysis portion of the QM process while others also included online data collection. Studies to determine the effectiveness of Q-Assessor over a paper collection process found that participants preferred the online interaction to the manual process and that Q-Assessor provided a sound platform for end-to-end QM studies (Reber & Kaufman, 2011; Reber, Kaufman, & Cropp, 2000). Q-Assessor was hosted by a leading web service provider, which provided a high degree of system security (Q-Assessor, 2015b). Additionally, all of the hundreds of serious studies using the Q-Assessor were approved by their IRB (Q-Assessor, 2015b).

The Q-Assessor software data analysis only tells a portion of the story. Part of the data collection process included capturing live interview comments as the participant performed the Q-sort. The data analysis from these interviews was analyzed using phenomenological research practices, beginning with a review of the transcriptions and proceeds from there to the five primary steps outlined below by Moustakas (1994):

1. Review the data, keeping in mind that initially each statement or topic has equal value.

2. Identify the meaning units of each horizontal item.

3. Cluster the meaning units into common themes, and removing redundant statements.

4. Develop the textural description of the experiences.

5. Develop structural descriptions and integrate the textural and structural to form the essence of the phenomenon.

The qualitative software analysis tool MAXQDA was used as the data management tool for the live interview portion of this study and supported the analysis of coding of the interview sessions, and captured my perceptions, observations and potential areas of bias through memos. As noted above, the insights provided by the live Q-sort interviews allowed me to gain a better understanding of the thought process of the participant. Once the coding from the interviews and the Q-sort factor analysis had been completed, these two data analysis sources were analyzed together to provide a better picture of the emerging factors. The interviews not only helped amplify the Q-sort statistical findings but also put into context any discrepant results (Shemmings & Ellingsen, 2012, p. 422). QM was well suited to illuminate the discrepant views of participants and instead of working to discover whether these perceptions were plausible, QM merely captured these views. In this way, the QM process was different from other qualitative analysis methods, as the participant told their story through his or her sorting of the Q statements. Because each statement must be placed somewhere on the Q-sort

grid, the researcher got the full picture of the story being told by the participant (Shemmings & Ellingsen, 2012).

The Q-sample statements were derived from the overall concourse of what is known today as the most frequently used gamification components. Using this accumulation of elements and the subsequent ranking of them by members of the Millennial generation, a direct measure of the perceptions of this cohort in how each of these components would influence engagement with a nonprofit was revealed.

## Role of the Researcher

As with most qualitative study, the researcher places him or her as an instrument in the study (Leckie, 2008). QM follows this tradition in two significant ways. The first way the researcher acted as a research instrument is in the definition of the concourse and subsequent Q-sort. QM researchers approach defining the concourse in one of two ways: (a) conducting in-depth interviews about the research topic to gain the spectrum of opinions held by individuals or focus groups, or (b) examining the body of knowledge available about the study topic to develop the flow of communication (Shemmings & Ellingsen, 2012). For this study, the concourse was established based on the existing body of knowledge relevant to gamification components. Once the concourse had been developed, I then distilled the concourse into a smaller subset of statements about the topic (Stephenson, 1994). This is known as the Q-sort and by creating the primary instrumentation used in the study, I became part of the study instrument, as I interpreted the body of data and determined its relevance to the study (Leckie, 2008; Ritchie & Lewis, 2003). The high-level design of this study included conducting a portion of the

Q-sorts utilizing an online web-based interface, with a smaller subset of the Q-sorts via a live interview with Millennials. The individual Q-sort interviews also placed me as an instrument of the study.

As noted above, the role of the researcher in this study was twofold. The researcher was a nonparticipant in the collection of online Q-sort data (Leckie, 2008). Although observation of the Q-sort was my primary activity during the live Q-sort interviews, I transitioned to the role of the observer as participant (Leckie, 2008). This change in role was due to the dialogue with the participant during the live Q-sort interviews to explore the participant's reasoning for sorting the Q-sort cards in the way they did (McGinn, 2008; Shemmings & Ellingsen, 2012).

By using the Walden participant pool, the potential for any form of personal or professional relationship was extremely unlikely. The Walmart and Tyson home offices are located in the Northwest Arkansas area, and the professional community is well networked. Consequently, the chance of a personal or professional relationship with a UofA participant was slightly more likely as I was at the time employed by Walmart and had engaged professionally with Tyson as an independent consultant. Power relationships were managed by the researcher maintaining an outsider role during this research by disqualifying participants that were viewed by me as a mentor or could have had potential impact on the participant's career (Leckie, 2008).

In QM, researcher bias may occur in the development of the Q-sample (Shemmings & Ellingsen, 2012). To minimize this potential bias, I engaged three experts in the field of gamification in a workshop to review the Q-sample statements for their

perspective of clarity of statement, representation of the gamification dynamic and completeness of the gamification concourse. Analysis of the resulting Q-sorts was another area of potential researcher bias. QM researchers can minimize this bias during the live Q-sort interviews by capturing participant's comments during the Q-sort for inclusion in the data analysis process (Watts & Stenner, 2005).

## Trustworthiness

The use of a qualitative approach such as QM requires the researcher to not only consider the typical qualitative creditability threats but must also incorporate strategies to protect the validity of the research. The qualitative study used a unique set of strategies to maintain the reliability and validity typically required for the quantitative study and focused attention more on the creditability of research (Patton, 2002). The specific approaches used to protect study credibility are outlined below. From the quantitative dimension of the research design, study validity is one of the criticisms raised by the quantitative detractors of QM practices and consequently requires special attention (Kampen & Tamas, 2013).

### Credibility

The use of QM is thought to reduce researcher bias due to the use of factor analysis to supplement the researcher processing and analyzing themes found in interviews (Shinebourne, 2009, p. 95). In qualitative research, credibility begins with the level of knowledge the researcher has of the field of study, as well as the researcher's self-awareness of their biases (Burke Johnson, 1997). For the purposes of this study, I took additional steps to enhance creditability by becoming certified in gamification

design by the Engagement Alliance gamification user group (Engagement Alliance, 2015). Related to the credibility of research findings, a common technique is to incorporate alternative and rival explanations in the data analysis process (Patton, 2002, p. 553). Triangulation of findings is another method of protecting validity and the interview sessions following the Q-sort was used to further aid in creating a valid study (Patton, 2002). The construct of utilizing the research techniques used in QM also aids in enabling triangulation (Gray, 2013). Tracy (2011) introduced crystallization as another attribute of credible research that is closely aligned to triangulation. This attribute is satisfied when researchers collect data from multiple sources, with the aim of enriching their understanding of findings rather than merely confirming them. Once again, the QM design supported this goal through the combination of the Q-sort process in conjunction with dialogue with the participants.

**Transferability**

A common strategy in a qualitative study to address transferability is the creation of a detailed description of the study's boundaries, assumptions, and limitations (Shenton, 2004). This documentation allows others to determine how broadly the results of the study can be applied to other contexts. Elements noted as important to the detailed description include: (a) the number of participants, (b) constraints on selection of participants, (c) number of researchers and their roles in the study, (d) data collection process, (e) the number of data collection sessions, (f) the length of data collection sessions, and (g) and the time span for data collection (Shenton, 2004). Explanations for each of these seven description topics are detailed within the contents of this chapter. An

important factor in ensuring transferability is the quality of the researcher's description of how the study's data was analyzed and what was included in the reported results data analysis process (Elo et al., 2014). The combination of a detailed description of both the study's design and the rich description of data analysis and results, should allow readers to extrapolate the findings to a broader context and researchers that are seeking to build upon this research to develop future research design (Elo et al., 2014).

**Dependability**

The dependability of research is a measure of whether the research results can stand the test of time and different conditions (Elo et al., 2014; Valenta & Wigger, 1997). A key factor in ensuring dependability is a clear description of the criteria used to select participants and assurance that throughout the execution of the sampling process, the initial research design was adhered to or if not, modifications are clearly stated in the study findings (Elo et al., 2014). There is not consensus among Q researchers as to the level of dependability that can be drawn from QM research design (Kampen & Tamas, 2013). However, Brown (1980) claimed a rate of 85% replication rate within a year of the initial Q-sort and subsequent tests of dependability have yielded similar results (Cross, 2004; Nicholas, 2011).

**Confirmability**

Research design to enhance confirmability is primarily concerned with tactics to ensure others can corroborate research findings (Trochim, 2006). Brown (1993) observed although elements of QM design (as with any qualitative study) are subjective, the statistical analysis used in QM affords the researcher the opportunity to find

connections that might not be discernable otherwise. The use of statistical analysis supports the study's confirmability, as standard statistical practices were used and can be confirmed by other researchers. Also, once data was collected, the researcher planned to conduct a data audit as suggested by Trochim (2006) to review the data collection procedures used and determine if researcher bias had inadvertently been introduced.

**Validity**

Pure quantitative study design must address measurement, internal and external validity threats. These threats are typically mitigated in the design of the experiment and occur before data is collected (Maxwell, 2013). External validity addresses the notion that a study's conclusions are generalizable to the greater population (O'Sullivan, Rassel, & Berner, 2008). Given QM research design does not aim to establish generalizability, protecting external validity was not a research design consideration for this study (Stephenson, 1953). Measurement validity is concerned with whether the instrument used in the study measures what it is intended (Kampen & Tamas, 2013, p. 3112; Trochim, 2006). The combination of the conditions of instructions, Q-sample statements, and Q-sort grid make up the instrumentation of this study and were designed to capture the perceptions of the participant about the value of the individual gamification components in generating engagement with a nonprofit. For this instrumentation to be effective, it must contain a comprehensive set of Q statements to reflect the concourse of gamification components, the Q statements and conditions of instruction must be easily understood by participants and finally the sort itself represent the views of the participants (Kampen & Tamas, 2013). To address both the concourse scope and

understandability concern, I utilized a panel of experts to review the instrumentation and based on their feedback, modified the Q-sample statements accordingly.

**Ethical Procedures**

This study's design addressed the ethical standards defined by the Institutional Review Board (IRB) to ensure justice, beneficence, and respect for persons (Rudestam & Newton, 2007). Justice was achieved through the equitable selection of participants (Endicott, 2010). The only screening of participants was their birth year, which enabled the study to focus on Generation Y. Additionally, I had no direct ties to the University of Arkansas, and participant selection was entirely voluntary. The Q-Assessor software provided me with the ability to display an introduction to the potential participant before beginning the sort. This introduction contained: (a) an explanation of the purpose of the study; (b) informed consent information; (c) a description on how participant confidentiality will be protected; and, (d) how the collected data will be utilized. Participants were instructed to explicitly click on a Start-the-study button before they could begin the study (Q-Assessor, 2015c, Section 4). The instructions made clear that by clicking the Start-the-study button, the participant agrees to be a participant in the study. Participants were able to opt-out of the Q-sort interviews at any time, by just abandoning the online session. To minimize the risk and satisfy beneficence, participant privacy and confidentiality was protected through the use of assigning codes to participant notes and participant names were not used in the dissertation write-up (Rudestam & Newton, 2007). The Q-Assessor software supported this functionality by allowing me to configure the study to accept anonymous participants (Q-Assessor, 2015c,

Section 4). Q-Assessor data was stored on a secure server managed within the Q-Assessor cloud network, "utilizing industry-standard database and middleware tools with strict access controls" (Q-Assessor, 2015c, Section 4). Access to the participant and study information was limited to me and Q-Assessor site administrators. The Q-Assessor site administrator access was required to provide adequate support for the system and to monitor inappropriate use of the site (Q-Assessor, 2015b).

IRB approval to proceed with the study was required before any data collection procedures took place. The IRB reviewed the proposal to discern whether the study design ensured risks are minimized and are reasonable relative to the benefits of the study and that informed consent was duly administered (Endicott, n.d.). This approval was requested through the process defined by Walden University and included completion and submission of the IRB checklist and application.

## Summary

Chapter 3 outlined the method of inquiry and the design for the research study. The use of gamification has become more and more commonplace in the educational, business, and marketing domains while the nonprofit space is just beginning to see its application. Given this trend in conjunction with the demographic shift of Millennials shortly replacing Baby Boomers as the primary income producers in the U. S. and consequently about to become the revenue fuel for nonprofits, an examination of how these two worlds (gamification and Gen Y philanthropy) intersect is ripe for scholarly research. One of the challenges with examining this intersection is the technical nature of understanding the dynamics of the human-computer interaction (HCI) of gamification

and its ability to resonate with its users. Fortunately, other researchers have utilized research techniques to help solve this problem and have shared the practical use of Q methodology (QM) to appropriately capture participant perceptions of HCI components. The study was designed to leverage QM to capture Millennial perceptions of common gamification components and their relative potential impact on charitable giving.

The QM approach utilized a web-based QM tool, allowing participants to sort 32 statements representing the various elements of gamification design. For a subset of the participants, face-to-face interviews accompanied the online Q-sort process. Participants were selected via purposive sampling techniques, with the emphasis on the respondent's age being between 34 and 18. Participants were assured of anonymity, and the utmost care was taken to ensure their privacy was protected. Data was analyzed using standard QM techniques, including the generation of a correlation matrix showing how participant perceptions are similar or dissimilar and lastly identification of distinguishing statements resulting from factor analysis (Brown, 2004). Information from the live Q-sort interviews was coded and enabled a richer view of the participant's perceptions of the effectiveness of the gamification components.

Chapter 4 includes a description of the results of the study. Chapter 4 also includes the manner in which the data was analyzed, the actual Q-sort statistical results and also the themes that emerged from the coding of the live interviews conducted early in the study.

# Chapter 4: Data Results

## Introduction

The purpose of this qualitative study was to provide nonprofit organizations with information to increase their understanding of how members of the Millennial generation perceive various gamification components and their impact on philanthropic (financial donation) behavior. Ultimately, this information could be used to encourage increased charitable giving within members of this generation. Q Methodology (as introduced in chapters two and three) was used extensively in both the data gathering and analysis steps of this study. A web-based software program (Q-Assessor) was the primary tool used to conduct the Q-sorts, capture the Q-sort data and analyze the Q-sort results. The software program MaxQDA was also used to assist in the analysis of the notes captured during the face-to-face interview sessions with participants.

This chapter begins with a presentation of the actual outcomes of the data collection process and changes made to the study plan based on the situational realities of the research execution. Documentation of the participant demographics, including gender and ethnicity is included. In Q Methodology the number of factors used to analyze the data is quite important (Brown, 1993) and as a consequence, a detailed description of the rationale used by me in choosing five factors for this study is included in the data analysis section of this chapter.

In addition, the results of the Q-sort factor analysis are presented by providing in-depth data on each factor (or group) and its common and distinguishing attributes. The review of the factor analysis begins to reveal a profile of each of the groups of

participants, which is further interpreted in Chapter 5. In addition to presenting the results from the perspective of the factor profiles, an analysis of the ranking of the various gamification components is included. Finally, this chapter reviews the steps taken to ensure study trustworthiness and my ability to maintain creditability, transferability, dependability and confirmability.

## Research Setting

The plan for the study included data collection from two primary sources, the Walden University student participant pool and face-to-face interviews conducted on the University of Arkansas (UofA) campus. In fact, no Walden participant pool Q-sort survey was completed and all thirty-six surveys were captured instead at the University Arkansas. Based on the Walden participant pool-reporting portal, only one participant selected a time slot for the study, and that participant did not complete a Q-sort.

Although the rate of participation from Walden students was disappointing, it was found to be advantageous to the UofA participants that I was present to answer any questions about Q-Assessor's user interface (Q-Assessor is the online Q-Sort software). The second step of the Q-Assessor Q-sort requires the participant to drag and drop the single statement that they believe is most impactful and then the single statement that they believe is least impactful, before the rest of the sort bins are made available to populate with a Q-sort statement. Many participants were confused at this point in the Q-sort process and because I was there to assist the Q-sort abandonment rate was greatly reduced. In the end, the Q-sort abandonment rate turned out to be only 2 of 42.

All data collection occurred on the University of Arkansas Fayetteville campus, specifically inside the public space of the student union's lounge area. This location was particularly conducive to conducting the Q-sorts, as it appeared students used this space to relax between classes and connect with their friends. For the eleven live interviews conducted in conjunction with the Q-sorts, the arrangement of the area allowed me and the participant to move to a more private table to converse on the participant's perceptions of gamification components and charitable giving. It should be noted that, I knew four students participating in the study; one was the researcher's son, one the researcher's nephew, and two were my work colleagues. Due to this familial relationship, these sorts were removed from the data and 36 sorts were included in the final data analysis.

## Demographics

Of the 36 participants in the Q-sorts, 20 were female and 16 were male. All participants were in the Gen Y cohort (individuals born between 1982 and 1998) and were students attending the University of Arkansas, Fayetteville. The participation by ethnicity or race can be found in Table 6, along with the current percentage of these same ethnicities within the UofA student body. The ethnicity/race of the study participants was somewhat more diverse than that of the UofA general population.

Table 6

*Participants by Ethnicity/Race*

| Ethnicity/Race | Study % | UofA % |
|---|---|---|
| African American | 14% | 4.8% |
| Asian or Pacific Islander | 5% | 2.5% |
| Caucasian | 64% | 74.8% |
| Hispanic | 17% | 7.6% |
| Native American | 0% | 1.2% |
| Other | 0% | 9.1% |

*Note.* University of Arkansas ethnicity data obtained from "Fall 2016 Preliminary 11th Day Enrollment Report," by University of Arkansas (UofA) Office of Institutional Research and Assessment, 2016.

## Data Collection

Data collection occurred over the course of two days, August 23rd and August 24th 2016. The UofA student union includes two distinct seating areas. One seating area is setup to optimize quiet study, while the other area appeared to invite more relaxation and collegial conversation. I selected a table inside the lounge area of the UofA student union and displayed a poster inviting students to participate in the study. All 36 Q-sorts were conducted in the UofA student union. The participants utilized my iPad and Mac laptop to link into the web-based Q-sort and all Q-sort results were recorded via Q-Assessor, the web-based data collection software used for the study. Eleven participants agreed to converse with me during the Q-sort or immediately after completing the Q-sort. I took notes from these 11 interviews in written form. Five interviews occurred on August 23, 2016 and the remaining six, on August 24, 2016.

The original research plan included the use of two distinct sets of user sort instructions. One instruction asked the participant to sort the statements based on what they thought; the second asked the statements to be sorted based on what the participant

thought others within their age group believed. On the first day of data collection as I debriefed each respondent from the group of 'what others think', it became clear that these participants did not make that distinction in their minds as they performed the Q-sort. As a consequence, I modified the approach and decided to give all respondents the sort instructions to evaluate the statements based on what they think, rather than what they thought others think. The 11 Q-sorts completed on the instructions to evaluate the statements based on what others think, were merged with the other twenty-five Q-sorts for data analysis.

## Data Analysis

Thirty-six participants completed Q-sorts and these results were analyzed using Q-Assessor software. Analysis of the initial factors from Q-Assessor occurred in three steps. The first step was to calculate the correlations between the Q-sorts and was performed by the Q-Assessor software. Q-Assessor's factor analysis resulted in the extraction of six factors. The results of this initial extraction can be found in Appendix C in the form of a correlation matrix. The second step in this extraction process relied on my judgment to determine the number of factors to rotate. The final step was to rotate the factors to provide a clearer view of the Q-sort statements and how they related to each factor.

Determination of the number of factors to retain and subsequently rotate depends on the research objectives and is not necessarily prescribed by Q Methodology based solely on statistical results (Watts & Stenner, 2005). Q-Assessor produces eigenvalues for each factor and provides the researcher with a measure of the relative variance

explained for each factor (Krueger, Casey, Donner, Kirsch, & Maack, 2001, p. 31). Common practices in determining which factors should be used in factor rotation include the Kaiser criterion of keeping factors with an eigenvalue-greater-than-one and the use of the scree test (Cramer & Howitt, 2004; Ford, MacCallum, & Tait, 1986). Use of the eigenvalue-greater-than-one measure has lost some support over the years while the scree test has maintained its validity among researchers (Ford et al., 1986; Kline, 2013; Mulaik, 2004). Various techniques are used to interpret the scree test, including a visual assessment based on the graphed slope of the eigenvalues and an assessment of the significance plus standard error of the factor loading. For the purposes of this study, I used a combination of the factor loading and standard error assessment of the statistics produced by Q-Assessor, in conjunction with my judgment. The pre-rotation five factor analysis results can be found in Appendix D.

To test for the most appropriate number of factors to use for analysis, un-rotated factors were calculated for scenarios with four, five and six factors. Each of these scenarios was then evaluated using a pre-rotation convention known as Humphrey's rule, which looks for two or more items within a factor to load significantly. For this study, items with an eigenvalue above 0.456 were considered to have a significant factor load (Brown, 1980, p. 222). The second part of Humphrey's test evaluated the standard error for each factor; this test looked at the two highest loading items for each factor and if the product of their factor eigenvalue was greater than 0.35 the factor was considered for inclusion in the study (Brown, 1980; Watts & Stenner, 2005). To further the assessment of the number of factors to utilize in the study, a varimax rotation was generated for each

scenario (factors four, five and six). Varimax rotation is used in factor analysis to help simplify interpretation because after a varimax rotation has been completed, each original variable (or in this case Q-sort statement) tends to be associated with one (or a small number) of factors, and each factor represents only a small number of variables (Osborne & Costello, 2009).

The results of the rotations were evaluated to determine if the factors in each scenario had significant loading and that cross loading did not skew the factors (Watts & Stenner, 2005). Table 7 provides a summary of both the pre-rotation and post-rotation statistical analysis used to assist in the determination of the number of factors utilized for this study.

Table 7

*Statistical Evaluation of Number of Factors*

| | Humphrey's rule: pre-rotation | | Post-rotation | |
|---|---|---|---|---|
| | Significant Factor load | Standard error | >.3 loading | Cross Loading |
| | | **4 factor** | | |
| A | 8 | 0.57 | 15 | |
| B | 4 | 0.42 | 12 | B:D 1 |
| C | 1 | 0.30 | 7 | |
| D | 1 | 0.22 | 8 | |
| | | **5 factor** | | |
| A | 11 | 0.57 | 6 | |
| B | 6 | 0.42 | 11 | |
| C | 1 | 0.22 | 8 | |
| D | 2 | 0.22 | 13 | |
| E | 0 | 0.18 | 10 | |
| | | **6 factor** | | |
| A | 9 | 0.62 | 10 | A:B 1; A:D 1 |
| B | 7 | 0.42 | 10 | |
| C | 1 | 0.17 | 5 | C:F 1 |
| D | 0 | 0.19 | 13 | |
| E | 0 | 0.13 | 7 | |
| F | 0 | 0.19 | 9 | |

*Note*. Q-Assessor provided both factor loading and standard error measures.

The six factor scenario was discarded based on the number of cross loadings contained in the data and the number of pre-rotation factors that did not have adequate factor loading according to Humphrey's rule. The four factor scenario yielded better pre-rotation and post-rotation factor loading results and had an acceptable amount of cross loading, however, based on my judgment, did not provide a sufficiently rich representation of the views of the participants. Although the five factor scenario did not

meet all of the pre-rotation Humphrey's rule tests, it was determined to be the best fit for this study, due to the absence of cross loading and the post-rotation loading results. Brown's (1980) rule extracting one factor for every six to eight participants, further supports the appropriateness of selecting the five-factor rotation. These five factors accounted for 48% of the variance in the study. According to Kline (1994) variances in the range of 30% to 40% or greater are considered good measures.

It should also be noted that no Q-sorts were removed from the data based on communality ($h^2$). Q-sort 9417 had the lowest $h^2$ at 0.1221; meaning only 12% of the variance in Q-sort 9417 had been accounted for by the study factors (Watts & Stenner, 2005). The option to eliminate this Q-sort from the data was evaluated by deleting this participant and rerunning the factor analysis and varimax rotation to determine if there was any material difference in factor loading (Watts & Stenner, 2005). It was found that there was little change in the Humphrey's rule results and as a consequence the 9417 Q-sort was re-added to the study data.

An important initial step towards gaining insight into the in Q-sort factor analysis is the evaluation of the distinguishing statements for each factor. Table 8 contains those statements that standout from other statements for each of the five factors. The review of Table 8 highlighted that all but factor E ranked the statement 'donating to charity' within their top five agree statements. Factor E ranked this statement 14 of the 32. It should also be noted that the statement 'using online games to engage donors' ranked in the top six agree statements for only two factors (C and E). 'Engaging my social network for

charity' had a somewhat higher rate of agreement (within the top ten agree statements) particularly for factors E, D and C. Factor A ranked this statement a low 26 of 32.

Table 8

*Distinguishing Statements for Factors*

| | | Z | Rank | Z | Rank | Z | Rank | Z | Rank | Z | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Factor A | A | | B | | C | | D | | E | |
| 8 | knowing the amount given by others in my social network | 1.72 | 4 | -0.80 | -2 | -0.27 | 0 | 0.26 | 0 | -1.28 | -3 |
| 9 | engaging my social network for charity | -0.94 | -2 | 0.13 | 0 | 0.85 | 2 | 0.78 | 1 | 1.36 | 3 |
| 12 | seeing the names of people in my social network in a giving leader board | -1.63 | 3 | -1.18 | -3 | -0.50 | -1 | -0.16 | 0 | 0.56 | 2 |
| | Factor B | | | | | | | | | | |
| 3 | getting special access to the charity's programs | 0.88 | 2 | 1.83 | 4 | -1.38 | -3 | 0.90 | 1 | -0.20 | -1 |
| 9 | engaging my social network for charity | -0.94 | -2 | 0.13 | 0 | 0.85 | 2 | 0.78 | 1 | 1.36 | 3 |
| 10 | getting special access to participate in the charity's board meeting | -0.45 | -1 | 1.61 | 3 | -1.73 | -3 | 0.98 | 2 | -1.08 | -2 |
| 12 | seeing the names of people in my social network in a giving leader board | -1.63 | 3 | -1.18 | -3 | -0.50 | -1 | -0.16 | 0 | 0.56 | 2 |
| 21 | getting points that allow me to increase my level | 0.72 | 1 | 1.59 | 3 | 0.37 | 1 | -1.41 | -3 | -0.64 | -1 |
| 27 | knowing the amount donated by others outside my social network | -0.66 | -1 | -1.92 | -4 | 0.54 | 1 | -0.43 | 0 | -0.77 | -2 |
| | Factor C | | | | | | | | | | |
| 3 | getting special access to the charity's programs | 0.88 | 2 | 1.83 | 4 | -1.38 | -3 | 0.90 | 1 | -0.20 | -1 |
| 4 | knowing people outside my social network gave to the charity | -1.49 | -3 | -1.81 | -3 | -0.73 | -1 | 0.52 | 1 | 0.56 | 2 |
| 18 | getting points that allow my social network to increase our level | -0.49 | -1 | -0.25 | -1 | 1.00 | 2 | -0.88 | -2 | 0.08 | 0 |
| 19 | getting special status for the $s raised through my social network | -1.31 | -2 | -0.73 | -2 | 1.11 | 2 | 1.35 | -3 | -0.72 | -2 |
| 20 | participating in a fundraising challenge or quest | -0.22 | 0 | -0.18 | 0 | 1.09 | -3 | 1.47 | 3 | 1.57 | 3 |
| 23 | competing against another's social network | -0.17 | 0 | -1.05 | -2 | 1.13 | 2 | -0.54 | -1 | -1.93 | -3 |
| 26 | seeing the names of people outside my social network in a giving leader board | -1.42 | -3 | -1.59 | -3 | -0.04 | 0 | -0.63 | -1 | 1.08 | 2 |
| 27 | knowing the amount donated by others outside my social network | -0.66 | -1 | -1.92 | -4 | 0.54 | 1 | -0.43 | 0 | -0.77 | -2 |
| 28 | leading a fundraising challenge or quest | -1.14 | -2 | -0.61 | -1 | -2.00 | -4 | 1.10 | 2 | 0.36 | 1 |
| | Factor D | | | | | | | | | | |
| 5 | receiving special status in the game for the $s I contributed | -0.46 | -1 | 0.29 | 1 | 0.85 | 1 | -1.73 | -4 | -0.64 | -1 |
| 7 | accumulating badges that designate my number of followers for the charity | 0.47 | 1 | -0.66 | -2 | -0.47 | -1 | -1.51 | -3 | 0.08 | 0 |
| 10 | getting special access to participate in the charity's board meeting | -0.45 | -1 | 1.61 | 3 | -1.73 | -3 | 0.98 | 2 | -1.08 | -2 |
| 16 | knowing that the charity's staff is active in the game | 0.05 | 0 | -0.57 | -1 | -0.79 | -2 | 0.96 | 2 | 2.00 | 4 |

*(table continues)*

| | | Z | Rank | Z | Rank | Z | Rank | Z | Rank | Z | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | | B | | C | | D | | E |
| 21 | getting points that allow me to increase my level | 0.72 | 1 | 1.59 | 3 | 0.37 | 1 | -1.41 | -3 | -0.64 | -1 |
| 22 | receiving a free invitation to host a table at a charity event | -1.72 | -4 | 0.32 | 1 | 0.07 | 0 | 1.06 | 2 | -2.00 | -4 |
| 26 | seeing the names of people outside my social network in a giving leader board | -1.42 | -3 | -1.59 | -3 | -0.04 | 0 | -0.63 | -1 | 1.08 | 2 |
| 28 | leading a fundraising challenge or quest | -1.14 | -2 | -0.61 | -1 | -2.00 | -4 | 1.10 | 2 | 0.36 | 1 |
| 30 | getting special access to participate in the charity's staff meetings | -0.67 | -1 | 0.36 | 1 | -0.80 | -2 | 1.18 | 3 | -0.13 | -1 |
| | Factor E | | | | | | | | | | |
| 3 | getting special access to the charity's programs | 0.88 | 2 | 1.83 | 4 | -1.38 | -3 | 0.90 | 1 | -0.20 | -1 |
| 11 | seeing my name in a giving leader board | 0.85 | 2 | 1.36 | 2 | -1.03 | -2 | -1.24 | -2 | -0.08 | 0 |
| 14 | competing against individuals within my social network | 0.83 | 1 | -0.17 | 0 | 1.35 | 3 | -0.08 | 0 | -1.64 | -3 |
| 16 | knowing that the charity's staff is active in the game | 0.05 | 0 | -0.57 | -1 | -0.79 | -2 | 0.96 | 2 | 2.00 | 4 |
| 21 | getting points that allow me to increase my level | 0.72 | 1 | 1.59 | 3 | 0.37 | 1 | -1.41 | -3 | -0.64 | -1 |
| 23 | competing against another's social network | -0.17 | 0 | -1.05 | -2 | 1.13 | 2 | -0.54 | -1 | -1.93 | -3 |
| 26 | seeing the names of people outside my social network in a giving leader board | -1.42 | -3 | -1.59 | -3 | -0.04 | 0 | -0.63 | -1 | 1.08 | 2 |
| 28 | leading a fundraising challenge or quest | -1.14 | -2 | -0.61 | -1 | -2.00 | -4 | 1.10 | 2 | 0.36 | 1 |

*Note.* Only Q-sort statements at <0.05 significance are included. Z is the Z-score.

Factor D represented the highest variance of the five factors, explaining 15% of the study's common variance. Factor D participants ranked 'learning more about the charity' as the most impactful mechanism to attract Millennial donors and "receiving special status in the game for the dollars they contributed" as the least impactful. 'Donating to charity' had a high Z-score of 1.5, however using online games to engage donors had a negative Z-score of -.27.

## Evidence of Trustworthiness

### Credibility

Credibility of qualitative research is best thought of as the measure of how authentic the research findings are from the viewpoint of the participants (Trochim, 2006). Q Methodology is somewhat unique within the qualitative tradition, as the very

process of a participant completing the Q-sort, is subjective and based on the participant's point of view. In the conduct of a Q Methodology study, the participant actively engages in the Q-sort process and conducts the Q-sort from their first-person viewpoint (Watts & Stenner, 2005, Chapter 1). Consequently, a high degree of credibility is built into the Q Methodology process. Even with this enhanced level of authenticity of participant voice in Q-sort findings, the statistical analysis was further enriched by matching the Q-sort results with information from the interviews conducted during and after the completion of the Q-sorts. At the end of the online Q-sort, one of the questions asked of the participant was "Please share any other thoughts you may have about using gamification to engage users to donate to charity." Participant responses to this follow-up question provided a mechanism to triangulate the Q-sort results. The full set of responses to this question can be found in Appendix E. The correlation of Q-sort results to interview responses is outlined in the results section of this chapter.

Morrow (2005) suggested credibility rigor is enhanced by attention to negative or discrepant case analysis. In this study one participant's h2 (or communality) score was less than .2; or another way of saying this, this participant had less than 20% of their Q-sort statements in common with the factor they loaded with. In the Q Methodology domain, this Q-sort can be considered a discrepant case (Watts & Stenner, 2005). This Q-sort fell in the factor E grouping and a more in-depth analysis of how this participant's responses compared to others within this factor can be found in the individual factor results below.

**Transferability**

As noted in the study's proposal, transferability relies on the researcher's attention to detail in recording and documenting the data collection and analysis process. Great care has been taken to detail out and support the execution steps and decisions of this research. This should provide adequate information for future researchers to conduct similar research using these same methods.

**Dependability**

As with transferability, dependability can only be achieved if the researcher takes care to document in detail each step of the conduct of the research. In the case of this study, some modifications to the original plan were required. Each of these modifications has been documented in this chapter, along with the rationale for the plan deviations.

**Confirmability**

Although the use of statistical analysis for much of this study's data analysis supports confirmability, this element of trustworthiness also depends on the researcher's ability to accurately transcribe the statistical results to the qualitative analysis (Trochim, 2006). To enhance confirmability, I took steps to check and recheck data as a form of a post data audit, including:

1. Rerunning the Q-Assessor pre-rotation factor analysis for four, five and six factors to determine the best fit of number of factors for this study.
2. Rerunning the Q-Assessor post-rotation factor analysis for four, five and six factors to determine the best fit of number of factors for this study.

3. Removing the discrepant case and re-running both pre and post rotation to determine if there was any significant differences in the Humphrey's rule or scree test.
4. Linking the participant's interview statements to the factor profiles they loaded on, to determine if there were discrepancies.
5. Rechecking the gamification element mapping against industry gamification definitions to ensure consistency.

In the execution of each of the above steps, I was keenly aware of the possibility of researcher bias and took care to mitigate this threat throughout the study (Trochim, 2006).

## Research Results

This study was conducted using a single foundational research question: How do members of the Millennial generation perceive that gamification would impact their philanthropic (financial donation) behavior? To answer this question, the results of the study were analyzed from two primary points of view. The first was to understand the profile of each group of participants (factor) with common viewpoints. Based on the Q-sorts and the interview results, each factor revealed common thinking relative to the importance of the Q-sort statements representing various gamification components. Understanding how these gamification components ranked for each factor, revealed the relative impact of that group's propensity to engage in the philanthropic behavior of donating to the charity. Below the factors are outlined in the order of highest explained study variance first, to the factor with the least explained variance. The second

dimension analyzed was the overall ranking of the major gamification components across the full set of participants and those results can be found after the analysis of each factor. This view of the data provides an overall look at how the gamification components ranked across all factors.

**Individual Factor Analysis**

**Factor D: Non-gaming, knowledge seeker.** Factor D has an eigenvalue of 5.3 and explains 15% of the study variance. Nine participants were significantly associated with this factor. Five participants were female and four were male.

This group ranked 'donating to charity (32: +3) second only to learning more about the charity (29: +4). Learning about the charity and getting special access to participate in the charity's staff meeting (30: +3) distinguishes this group from the other factors. Although not opposed to using gamification to engage donors (31: 0), as evidenced by the distinguishing statement regarding leading a fundraising challenge (28: +2), this group appears to not be interested in using gamification in the context of charitable donations. Participant 9438 summed this sentiment up the best "I am not a big gamer, so for me it is not the best way for charities to get me to donate, but I am sure for a ton of Millennials this is very effective." This group appears to value a deeper understanding of the charity and the opportunity to participate with the charity.

Perhaps a more revealing view of this group is the distinguishing statements that the group ranked lower than all of the other groups. Special status, badges, a gift for a donation and getting points were all viewed by this group as noneffective ways to engage donors in giving to the charity. One of the male participants noted that he finds it almost

offensive for a charity to give a donor something for making a donation. His admonishment to the charity was "save your money for your mission." This viewpoint is consistent with how this group scored getting a $5 gift card for contributing (15: -1) and receiving special status for the $s contributed (5: -4). Factor D positively viewed engaging their social network for charity (9: +1), however, did not believe that the best way to obtain this engagement was through gamification. The Z-scores for factor D can be found in Table 9.

Table 9

*Factor D Z-Scores*

| ID# | Statement | Z-score |
|---|---|---|
| 29 | learning more about the charity | 1.72 |
| 32 | donating to charity | 1.518 |
| 20 | participating in a fundraising challenge or quest | 1.467 |
| 30 | getting special access to participate in the charity's staff meetings | 1.178 |
| 28 | leading a fundraising challenge or quest | 1.104 |
| 22 | receiving a free invitation to host a table at a charity event | 1.061 |
| 10 | getting special access to participate in the charity's board meeting | 0.983 |
| 16 | knowing that the charity's staff is active in the game | 0.96 |
| 3 | getting special access to the charity's programs | 0.9 |
| 9 | engaging my social network for charity | 0.776 |
| 6 | getting special access to the charity's facilities | 0.606 |
| 1 | knowing people in my social network gave to the charity | 0.6 |
| 4 | knowing people outside my social network gave to the charity | 0.52 |
| 24 | seeing the name of people in my social network in a giving leader board | 0.274 |
| 8 | knowing the amount given by others in my social network | 0.259 |
| 14 | competing against individuals within my social network | -0.082 |
| 12 | seeing the names of people in my social network in a giving leader board | -0.162 |
| 31 | using online games to engage donors | -0.265 |
| 27 | knowing the amount donated by others outside my social network | -0.425 |
| 13 | accumulating badges that designate $s raised by my network for the charity | -0.472 |
| 23 | competing against another's social network | -0.538 |
| 17 | accumulating badges that designate a giving level | -0.58 |
| 15 | receiving a $5 gift card or other gift for donating | -0.597 |
| 26 | seeing the names of people outside my social network in a giving leader board | -0.63 |
| 18 | getting points that allow my social network to increase our level | -0.882 |
| 25 | seeing my name in a giving leader board | -0.934 |
| 2 | receiving special status for the number of people I refer to the charity | -1.122 |
| 11 | seeing my name in a giving leader board | -1.243 |
| 19 | getting special status for the $s raised through my social network | -1.347 |
| 21 | getting points that allow me to increase my level | -1.409 |
| 7 | accumulating badges that designate my number of followers for the charity | -1.51 |
| 5 | receiving special status in the game for the $s I contributed | -1.73 |

*Note.* Z-scores calculated by Q-Assessor after factor rotation.

**Factor B: High engagement and recognition for giving.** Factor B has an eigenvalue of 3.9 and explains 11% of the study variance. Eight participants are significantly associated with this factor. Four participants are female and four are male.

Although donating to charity is important to this group (32: +2), it is not as important as receiving a $5 gift card for donating (15: +3) or getting points to increase their level (21: +3). Most important to this group is getting special access to the charity in the form of its programs (3: +4) and board meetings (10: +3). The interest in this high level of engagement is best explained by the comments of a factor B participant: "I like the notion of getting to participate in board meetings and having special access to the charity." This group appears to be neutral about mobilizing their social network (1: 0, 9: 0, 14: 0) to donate and negatively views competing outside their social network (4: -3, 12: -3, 23: -2, 26: -3). Knowing the amounts given by others (either inside or outside their network) is also viewed as having little impact on charitable giving (27: -4, 8: -2).

This group also does not believe that using games to engage donors is an effective means of fundraising (31: -1). This was the only group that assigned a negative ranking to using gamification to engage potential donors. It may appear that this group's ranking of using gamification contradicts their interest in appearing on leader boards (11: +2), accumulating badges (+1), and leveling up (21: +3), as each of these statements suggest interest in components of gamification. A possible explanation for this inconsistency could be found in the view of another factor B participant "I am a gamer, not necessarily a killer type, but more a collector. Close involvement in the charity helps me know where my money is going; there is so much in the news about charities wasting money." As noted by this participant, it is possible that this group enjoys gaming, but does not necessarily believe it is the best way to engage people in the context of charitable giving. A male one-on-one interviewee noted that he thought setting up "person-to-person

connections in for the form of booths setup on campus," would be a better way for charities to go to engage Gen Y donors. The factor Z-scores for factor B can be found in Table 10.

Table 10

*Factor B Z-scores*

| # | Statements | Z-Score |
|---|---|---|
| 3 | getting special access to the charity's programs | 1.825 |
| 10 | getting special access to participate in the charity's board meeting | 1.609 |
| 21 | getting points that allow me to increase my level | 1.589 |
| 15 | receiving a $5 gift card or other gift for donating | 1.552 |
| 11 | seeing my name in a giving leader board | 1.363 |
| 32 | donating to charity | 1.072 |
| 25 | seeing my name in a giving leader board | 0.975 |
| 6 | getting special access to the charity's facilities | 0.895 |
| 30 | getting special access to participate in the charity's staff meetings | 0.362 |
| 13 | accumulating badges that designate $s raised by my network for the charity | 0.349 |
| 22 | receiving a free invitation to host a table at a charity event | 0.324 |
| 5 | receiving special status in the game for the $s I contributed | 0.288 |
| 29 | learning more about the charity | 0.234 |
| 9 | engaging my social network for charity | 0.129 |
| 1 | knowing people in my social network gave to the charity | 0.122 |
| 2 | receiving special status for the number of people I refer to the charity | -0.098 |
| 14 | competing against individuals within my social network | -0.174 |
| 20 | participating in a fundraising challenge or quest | -0.175 |
| 24 | seeing the name of people in my social network in a giving leader board | -0.19 |
| 18 | getting points that allow my social network to increase our level | -0.254 |
| 17 | accumulating badges that designate a giving level | -0.369 |
| 31 | using online games to engage donors | -0.51 |
| 16 | knowing that the charity's staff is active in the game | -0.569 |
| 28 | leading a fundraising challenge or quest | -0.61 |
| 7 | accumulating badges that designate my number of followers for the charity | -0.664 |
| 19 | getting special status for the $s raised through my social network | -0.726 |
| 8 | knowing the amount given by others in my social network | -0.797 |
| 23 | competing against another's social network | -1.049 |
| 12 | seeing the names of people in my social network in a giving leader board | -1.179 |
| 26 | seeing the names of people outside my social network in a giving leader board | -1.594 |
| 4 | knowing people outside my social network gave to the charity | -1.811 |
| 27 | knowing the amount donated by others outside my social network | -1.92 |

*Note.* Z-scores calculated by Q-Assessor after factor rotation.

**Factor C: philanthropist gamers, what's in it for me.** Factor C has an eigenvalue of 3.1 and explains 8% of the study variance. Seven participants are significantly associated with this factor. Four participants are female and three are male.

Factor C ranked using games to engage donors the highest of all groups (31: +3). The only engagement factor ranking higher for this group was receiving a $5 gift card for donating (15: +4). Engagement of the groups' social network (9: +2), through competition within (14: +3) and outside their network (23: +2) ranked higher than other groups. Apart from leading a challenge or quest (28: -4), this group valued all of the major gamification components as a means of driving donations; these included badges (13: +1, 17: +1), status (19: +2), and points (18: +2, 21: +1). This group was the only group to value knowing the amount donated by those outside their social network (27: +1), while interestingly they were neutral to knowing the donation amounts within their network (8: 0). This could be attributable to the strong sense of competition within this group, driving the need to compete outside their network. Exemplar comments from this group of participants were "This is highly effective in my generation when there is public competition against social groups. examples: clubs, Greek life, class levels..." and "Seems like a great idea." An interesting suggestion from this same participant group was "I think if there was a way to connect gamers with a charity that has a connection to that game it would help. Like the game Cooing Fever; if there was a charity that connected with it that helped raise money for the fight against child hunger, I believe it would have a great impact." Another participant, not part of this factor, had a similar suggestion during the one-on-one interviews. She commented that a game that creates a special

connection with the charity's mission would be very impactful. For example, a game with an underlying context of cooking related to a charity whose mission is to fight hunger.

Unlike factors D and B, this factor had little interest in getting special access to the charity or its principals (3: -3, 10: -3, 16: -2, 30: -2) or even learning about the charity (29: 0). The factor Z-scores for factor C can be found in Table 11.

Table 11

*Factor C Z-scores*

| # | Statements | Z-Score |
|---|---|---|
| 15 | receiving a $5 gift card or other gift for donating | 1.768 |
| 31 | using online games to engage donors | 1.694 |
| 32 | donating to charity | 1.504 |
| 14 | competing against individuals within my social network | 1.35 |
| 23 | competing against another's social network | 1.132 |
| 19 | getting special status for the $s raised through my social network | 1.108 |
| 18 | getting points that allow my social network to increase our level | 1.001 |
| 9 | engaging my social network for charity | 0.85 |
| 5 | receiving special status in the game for the $s I contributed | 0.848 |
| 27 | knowing the amount donated by others outside my social network | 0.536 |
| 17 | accumulating badges that designate a giving level | 0.493 |
| 21 | getting points that allow me to increase my level | 0.371 |
| 13 | accumulating badges that designate $s raised by my network for the charity | 0.329 |
| 6 | getting special access to the charity's facilities | 0.084 |
| 22 | receiving a free invitation to host a table at a charity event | 0.066 |
| 29 | learning more about the charity | 0.05 |
| 26 | seeing the names of people outside my social network in a giving leader board | -0.035 |
| 1 | knowing people in my social network gave to the charity | -0.124 |
| 8 | knowing the amount given by others in my social network | -0.267 |
| 7 | accumulating badges that designate my number of followers for the charity | -0.474 |
| 12 | seeing the names of people in my social network in a giving leader board | -0.5 |
| 25 | seeing my name in a giving leader board | -0.692 |
| 4 | knowing people outside my social network gave to the charity | -0.729 |
| 2 | receiving special status for the number of people I refer to the charity | -0.734 |
| 16 | knowing that the charity's staff is active in the game | -0.788 |
| 30 | getting special access to participate in the charity's staff meetings | -0.799 |
| 24 | seeing the name of people in my social network in a giving leader board | -0.806 |
| 11 | seeing my name in a giving leader board | -1.026 |
| 20 | participating in a fundraising challenge or quest | -1.094 |
| 3 | getting special access to the charity's programs | -1.383 |
| 10 | getting special access to participate in the charity's board meeting | -1.734 |
| 28 | leading a fundraising challenge or quest | -1.997 |

*Note.* Z-scores calculated by Q-Assessor after factor rotation.

**Factor E: gamers, let's play–but not compete.** Factor E has an eigenvalue of 2.7 and explains 8% of the study variance. Seven participants are significantly associated with this factor. Four participants are female and three are male.

This group ranked using games to engage donors (31: +2) second only to factor C, however they were the only group to not have a positive view of donating to charity (32: 0). Knowing the charity's staff are active participants in the game (16: +4) ranked highest for this group. Although this group had a strong loading towards using gamification, competition had a low ranking (14: -3, 23: -3). This group provided little additional insights in the online questions. Only one participant in the factor E group was interviewed and he indicated he was not a heavy gamer, but did play online games a little. He also stated "gamification would be a great way to engage his age group."

Factor E contained the discrepant case (participant 9417) noted earlier in this chapter. Participant 9417 rated donating charity (32: +1) higher than the rest of the group and was slightly stronger in their ranking of the importance of using online games (32: +3). The primary disagreement between 9417's view and that of the rest of the factor E group was in knowing the amount given by others in the social network (8). 9417 ranked this a +2, while overall factor E ranked this a -3. Factor E's Z-scores can be found in Table 12.

Table 12

*Factor E Z-scores*

| # | Statements | Z-Score |
|---|---|---|
| 16 | knowing that the charity's staff is active in the game | 2.003 |
| 29 | learning more about the charity | 1.643 |
| 20 | participating in a fundraising challenge or quest | 1.565 |
| 9 | engaging my social network for charity | 1.361 |
| 26 | seeing the names of people outside my social network in a giving leader board | 1.079 |
| 31 | using online games to engage donors | 1.001 |
| 12 | seeing the names of people in my social network in a giving leader board | 0.564 |
| 4 | knowing people outside my social network gave to the charity | 0.564 |
| 13 | accumulating badges that designate $s raised by my network for the charity | 0.486 |
| 6 | getting special access to the charity's facilities | 0.486 |
| 1 | knowing people in my social network gave to the charity | 0.438 |
| 15 | receiving a $5 gift card or other gift for donating | 0.408 |
| 28 | leading a fundraising challenge or quest | 0.36 |
| 32 | donating to charity | 0.282 |
| 18 | getting points that allow my social network to increase our level | 0.078 |
| 7 | accumulating badges that designate my number of followers for the charity | 0.078 |
| 24 | seeing the name of people in my social network in a giving leader board | 0 |
| 2 | receiving special status for the number of people I refer to the charity | 0 |
| 11 | seeing my name in a giving leader board | -0.078 |
| 30 | getting special access to participate in the charity's staff meetings | -0.126 |
| 3 | getting special access to the charity's programs | -0.204 |
| 17 | accumulating badges that designate a giving level | -0.438 |
| 21 | getting points that allow me to increase my level | -0.642 |
| 5 | receiving special status in the game for the $s I contributed | -0.642 |
| 19 | getting special status for the $s raised through my social network | -0.72 |
| 27 | knowing the amount donated by others outside my social network | -0.768 |
| 25 | seeing my name in a giving leader board | -0.846 |
| 10 | getting special access to participate in the charity's board meeting | -1.079 |
| 8 | knowing the amount given by others in my social network | -1.283 |
| 14 | competing against individuals within my social network | -1.643 |
| 23 | competing against another's social network | -1.925 |
| 22 | receiving a free invitation to host a table at a charity event | -2.003 |

*Note.* Z-scores calculated by Q-Assessor post-factor rotation.

**Factor A: the transparent gamer.** Factor A, is the factor with the lowest eigenvalue and variance scores of 2.3 and 6% respectively. Five participants are significantly associated with this factor. Three participants are female and two are male.

Like factor D, this group was neutral about using games to engage donors (31: 0), but donating to charity was important (32: +2). This is the only group that ranked knowing the amount given by others within their network (8: +4) as positive and they ranked this strategy as being the most impactful way of engaging donors. One participant noted "I want my name on the leader board with the amount I gave. This would encourage my friends to try to beat me; this is good for the charity as they would get more dollars the greater the competition."

The gamification components of special access (6: +3, 3: +2), badges (17: +2, 7: +1), leader boards (11: +2, 12: +3, 24: +1, 25: +3) and leveling up (21: +1) appear to be important to this group, although not in all situations, particularly when the component involves people outside their network. For example, they valued the accumulation of badges based on their own performance as important, but not based on their network's accomplishments (13: -2). Leader boards containing people outside their network was of little interest to this group (26: -3), nor did they believe knowing people outside their network gave to the charity would be impactful (4: -3). A factor A participant noted that the notion of gamification "...is an awesome idea because there are a lot of gamers that would most likely be willing to give to charity if they would be able to see who was giving and how much and make it a game kind of." Another participant enthusiastically noted "I would love to play against friends in a situation like this."

Leveraging their social network (9: -2) was not viewed by factor A participants to be impactful and this group ranked this statement lower than any other factor. Another unique attribute of this group was their ranking of getting special access to the charity's facilities (6: +3). Factor A ranked this statement higher than any other group, suggesting that in addition to valuing the virtual elements of gamification, engagement with the charity in the physical world is also important. Factor A's Z-scores are in Table 13.

Table 13

*Factor A Z-scores*

| # | Statements | Z-Score |
|---|---|---|
| 8 | knowing the amount given by others in my social network | 1.722 |
| 12 | seeing the names of people in my social network in a giving leader board | 1.63 |
| 25 | seeing my name in a giving leader board | 1.559 |
| 6 | getting special access to the charity's facilities | 1.082 |
| 32 | donating to charity | 0.993 |
| 17 | accumulating badges that designate a giving level | 0.901 |
| 3 | getting special access to the charity's programs | 0.88 |
| 11 | seeing my name in a giving leader board | 0.848 |
| 14 | competing against individuals within my social network | 0.828 |
| 29 | learning more about the charity | 0.81 |
| 21 | getting points that allow me to increase my level | 0.718 |
| 24 | seeing the name of people in my social network in a giving leader board | 0.705 |
| 7 | accumulating badges that designate my number of followers for the charity | 0.47 |
| 1 | knowing people in my social network gave to the charity | 0.387 |
| 31 | using online games to engage donors | 0.099 |
| 16 | knowing that the charity's staff is active in the game | 0.053 |
| 23 | competing against another's social network | -0.173 |
| 20 | participating in a fundraising challenge or quest | -0.218 |
| 15 | receiving a $5 gift card or other gift for donating | -0.246 |
| 10 | getting special access to participate in the charity's board meeting | -0.452 |
| 5 | receiving special status in the game for the $s I contributed | -0.459 |
| 18 | getting points that allow my social network to increase our level | -0.488 |
| 27 | knowing the amount donated by others outside my social network | -0.659 |
| 30 | getting special access to participate in the charity's staff meetings | -0.665 |
| 13 | accumulating badges that designate $s raised by my network for the charity | -0.747 |
| 9 | engaging my social network for charity | -0.943 |
| 28 | leading a fundraising challenge or quest | -1.139 |
| 19 | getting special status for the $s raised through my social network | -1.306 |
| 26 | seeing the names of people outside my social network in a giving leader board | -1.424 |
| 4 | knowing people outside my social network gave to the charity | -1.489 |
| 2 | receiving special status for the number of people I refer to the charity | -1.56 |
| 22 | receiving a free invitation to host a table at a charity event | -1.718 |

*Note.* Z-scores calculated by Q-Assessor post-factor rotation.

The one-on-one interviews with the 11 participants revealed a common theme that crossed factor boundaries. Many of the interviewees mentioned the importance of knowing where their charitable donation went relative to support of the underlying

mission of the charity. One interviewee talked about being likely to give when it is clear exactly how the donation will be spent and would be reluctant to give "when the money goes to the charity's executives." Another interviewee said the source of her drive to understand better how donations are used by the charity stems from the many news reports of organizations being frivolous with donations. This drive to have more than a mere surface level understanding of the charity is consistent with the high rankings of the Q-sort statements that suggest closer involvement with the charity's inner workings. Only two engagement Q-sort statements relative to greater access to the charity had negative Z-scores, getting access to participate in the charity's board meeting and getting special access to participate in the charity's staff meetings. Table 14 provides a view of the summation of the Q-sort statements across all factors for these statements and reflects the strength of this theme.

Table 14

*Z-scores of Charity Engagement Statements*

| Statement | Z-score |
|---|---|
| Getting special access to the charity's programs | 2.018 |
| Getting special access to the charity's facilities | 3.153 |
| Getting special access to participate in the charity's board meeting | -0.673 |
| Knowing that the charity's staff is active in the game | 1.659 |
| Learning more about the charity | 4.457 |
| Getting special access to participate in the charity's staff meetings | -0.05 |

*Note.* Z-scores calculated by Q-Assessor post-factor rotation.

**Gamification component analysis**

To better understand how the components of gamification ranked within each factor, a component name was assigned to each statement. The details of how I assigned the component names can be found in Appendix G. Eight gamification elements were

created and defined below for better clarity and connection to common gamification design.

- *Access* refers to providing special access to the inner-workings of the charity. Examples from this study include attending board or staff meetings or gaining access to the inner-workings of a particular program the charity operates.
- *Badges* are the virtual rewards given to users for achievement of some kind within a game.
- *Challenge* is leading or participating in a gamified quest sponsored by the charity.
- *Knowledge* refers to only one of the Q-sort statements and this is simply learning more about the charity.
- *Leaderboards* mapped to several Q-sort statements and refers to ranking participants based on accomplishments as defined by the game.
- *Networks* is not a gamification element per se, however, was included in this study's Q-sort statements to capture the relative importance of connectedness to social networks. Q-sort statements mapped to networks include the notion of the participant's own social network and others outside their network.
- *Points* refer to scoring systems within gamified apps.
- *Status* refers to a user receiving special ranking for their accomplishments, which gives them special privileges.

- *Gifts* in the context of this study's Q-sort statements refer to receiving a $5 gift card for donation and receiving a free invitation to a charity event.

Table 15 provides a view of each of the above components with a summarized Z-score by factor. It should be noted that the Q-sort statements 'using online games to engage donors' and 'donating to charity' were not included in gamification element classification.

Table 15

*Factor Loading of Gamification Elements*

| Gamification Element | Factor A | Factor B | Factor C | Factor D | Factor E |
|---|---|---|---|---|---|
| access | 0.85 | 4.69 | -3.83 | 3.67 | -0.92 |
| badges | 0.62 | -0.68 | 0.35 | -2.56 | 0.13 |
| challenge | -1.36 | -0.79 | -3.09 | 2.57 | 1.93 |
| knowledge | 0.81 | 0.23 | 0.05 | 1.72 | 1.64 |
| leaderboard | 3.32 | -0.63 | -3.06 | -2.70 | 0.72 |
| network | -0.33 | -5.50 | 2.75 | 1.11 | -3.26 |
| points | 0.23 | 1.34 | 1.37 | -2.29 | -0.56 |
| status | -3.33 | -0.54 | 1.22 | -4.20 | -1.36 |
| gifts | -1.96 | 1.88 | 1.83 | 0.46 | -1.60 |

*Note.* Based on Q-Assessor calculation of Z-scores post-rotation.

By summing the Z-scores of each gamification element across all factors, a relative ranking of components can be determined. Table 16 reflects this ranking based on the Q-sort results.

Table 16

*Ranking of Gamification Elements*

| Gamification Element | Sum of Z-score |
|---|---|
| Knowledge | 4.46 |
| Access | 4.45 |
| Gifts | 0.62 |
| points | 0.08 |
| challenge | -0.74 |
| badges | -2.15 |
| leaderboard | -2.34 |
| network | -5.23 |

*Note.* Based on Q-Assessor post-rotation factor analysis

## Summary

This Q Methodology research found at least five profiles of Millennials that view gamification differently. The two groups that explained the highest variance in the study accounted for 26% of the study variance. These two groups (factors D and B) do not value many of the elements of gamification in the context of nonprofits using this as an engagement incentive for potential donors.

The three factors (C, E and A) each with the lowest variance, explain 22% of the variance, are all strong believers in gamification as an engagement influencer with Gen Y, but with different emphasis on the various gamification elements. Factor C was the group that appeared to be the most competitive in the context of gamification and rated the use of badges, status and points as most impactful. While E's use of gamification elements seemed to be more geared towards engaging their network, rather than competing. Factor A also embraced gamification and valued most the visibility to the amount given by others.

A detailed interpretation of the findings can be found in Chapter 5. Chapter 5 connects the study results with prior research found in the literature and the conceptual framework outlined in Chapter 2. Additionally, the next chapter delves into the limitations of this study and recommendations for further research. Finally, Chapter 5 highlights the potential impact this study's findings could have on creating positive social change.

# Chapter 5: Discussion, Conclusions and Recommendations

## Introduction

The purpose of this qualitative study was to provide nonprofit organizations with information to increase their understanding of how members of the Millennial generation perceive various gamification components and the impact on their philanthropic (financial donation) behavior. Ultimately, this information could be used to encourage increased charitable giving by the members of this generation. The study findings from the lens of both the Q-sort results and the individual interviews held with participants, confirm that Millennials believed gamification could drive greater participation in fundraising campaigns. One participant confirmed his enthusiasm for gamification in this way "I think it could be a powerful tool. People spend a lot of money for in-app purchases just for the satisfaction of completing a game. It's a great idea!" The type of gamification elements that resonate most prominently, however, varied depending on the point of view of the Millennial. I found that in general the gamification components that enhanced knowledge about the charity and provided special access to the charity and its operation drove the highest engagement levels. Closely following in importance were the gamification elements that provided some form gift back to the donor and accumulating points from the game.

This chapter outlines my interpretation of the data from the lens of the Q-sort results and the individual interviews held with the study participants. An examination of the data as it relates to the conceptual framework used to aid in the design of the study and recent literature within the domain of Millennial giving are provided. The limitations

to the research are revisited based on the researcher's experience in conducting the study. Recommendations for future research and the implications of positive social change are discussed.

## Interpretation of the Findings

Based on the data collected, there appears not to be a single answer to the research question of how Gen Y perceived the impact of gamification on donating to charity. The overall view of gamification components suggested that elements that enhance knowledge about the charity and special access to the charity and its operation would drive the highest engagement levels. The nature of Q Methodology forced ranked the extensive use of social networking and leaderboards as having the least engagement impact. The Q-sort results suggest that the relative importance of the various gamification elements largely depends on the preferences of the Millennial interviewed and a one size fits all view of engagement factors is variable for this generation. Five factors emerged from the study data, and each reflected a unique set of gamification elements that were valued over other elements.

### Analysis of Q-sort findings

The factor explaining the highest Q-sort variance devalued most of the gaming elements typically associated with gamification, including leader boards, badges and point systems. This factor (factor D) was nicknamed the 'non-gaming, knowledge seeker' and its participants valued leading a challenge or quest and those gamification elements that led to greater insights and direct engagement with the nonprofit. Engaging their social network for the charity was also important to this group as it enabled their

highly valued philanthropic interests. Factor D scored the use of gamification as having a negative impact, but at the same time scored the gamification elements of both leading and participating in a challenge very high. A potential explanation for these inconsistent scores is that perhaps this group did not view a challenge or quest as a gamification element and related the more common gamification components of leaderboards, points, and badges as gamification. This assertion is supported by the statements from three of the four factor D participants interviewed during their Q-sort, who noted their enthusiasm for the concept of using gamification for fundraising.

The 'high engagement with recognition for giving' group (factor B) was similar in many ways to factor D. Factor B also had philanthropic interests, with a strong need for engagement. Factor B diverged from factor D with a much stronger need for the more clearly extrinsic gamification elements of leaderboards and badges. Other extrinsic rewards that pointed to Factor B's less than altruistic motivation was receiving gifts in return for a donation. The philanthropist gamers (factor C) shared the interest in philanthropy with factors D and B. Similar to factor B, factor C valued the receipt of gifts in recognition of their donations and the more emblematic gamification elements of accumulating points and badges. What set this group apart from D and B was a complete lack of interest in engaging with the charity. As a matter of fact, the negative and neutral view of the statements related to learning about the charity and gaining access to its operation were unique to factor C, suggesting this group more than all of the others, placed more emphasis on the gaming components than engaging with the charity or its mission.

Factor E (gamers; let's play, but not compete) was another group that created somewhat of a paradox in their responses. Factor E participants were neutral relative to donating to charity, yet had a positive view of using games to engage donors. To take these two measures at face value, one might interpret this to mean that this group believed gamification would be impactful to generate donations, however, they were not themselves of a philanthropic mindset. Factor E also positively ranked knowing that others both inside and outside their social network gave to charity indicating that this may be a fair interpretation of the seemingly contradictory responses. Overall factor E's Q-sort results suggested that this group preferred to use gamification in the context of self-motivation rather than an interest in motivating others. Their interest in participating in or leading a quest or challenge, which is typically less about competition and more about meeting a common goal, is consistent with this aversion to the competition dynamics of gamification.

The transparent gamer (factor A) represented the smallest variance in the study and is the only group that believed seeing the actual amounts donated by other people in their social network as an effective gamification element. This group ranked highly all of the more extrinsic gamification elements including badges, leaderboards, and points.

**Analysis of findings based on conceptual framework**

The conceptual framework used for this research utilized a handful of motivational engagement theories as functional components in determining Millennial behavior. The TRA was one of the theories used, and to be most effective, it requires interaction within a social network recognized by the individual. This study found that

the use of a social network to fundraise ranked lowest across all factors. Only factors C and D (the nongaming, knowledge seeker and the philanthropist gamer) valued highly the social networking elements of gamification. Further, this research corroborated the Scharf and Smith (2014) finding that altruism is impacted by the closeness of the relationships within the social network. Both factors C and D preferred gamification elements that impacted others within their social network, rather than those outside their network.

Social status was another engagement component used as a conceptual lens for this research. The elements of gamification connected to social status and their cumulative Z-scores across all factors were:

- knowing the amount given by others in my social network; -0.37
- knowing the amount donated by others outside my social network; -3.24
- seeing my name in a giving leader board - +0.06
- accumulating badges that designate a giving level +0.01

Each of these Q-sort statements can be viewed as a means of signaling to others a giving level. The specific motivation for signaling whether it is to influence others to give at a higher level or to improve social status cannot be discerned from the Q-sort results. However, somewhat contrary to the Karlan and McConnell (2011) findings that social status is a primary motivator for charitable giving, this study's Q-sort results found that across all factors the social status statements were not highly valued, with the exception of factor A (the transparent giver). Factor A rated the statement 'knowing the amount given by others in my social network' as the most impactful Q-sort statement for this

group. Although important, factor A was found to be the factor with the lowest variance, accounting for only 6% of the study's variance.

SDT predicts that if the act of giving is not interesting or intrinsically motivating, an extrinsic reward is necessary to motivate the behavior (Vassileva, 2012). In the context of gamification, leader boards, badges, leveling and point systems are viewed as extrinsic rewards and the Q-sort statements containing these elements can be categorized as such (Vassileva, 2012). The remaining Q-sort statements could then be thought of as either intrinsic or extrinsic, depending on the point of view of the participant. To this point, even the statement 'donating to charity' could be extrinsically motivated, if the donor is giving merely to improve social status or gain recognition. Table 17 summarizes the Z-scores and suggests that the gamification elements that could be either intrinsic or extrinsic ranked higher in this research than those that were solely extrinsic.

Table 17

*Intrinsic/Extrinsic View of Q-sort Statements*

| # | Statement | Extrinsic Z-score | Intrinsic or Extrinsic Z-score |
|---|---|---|---|
| 1 | knowing people in my social network gave to the charity | | 1.42 |
| 2 | receiving special status for the number of people I refer to the charity | -3.51 | |
| 3 | getting special access to the charity's programs | | 2.02 |
| 4 | knowing people outside my social network gave to the charity | | -2.95 |
| 5 | receiving special status in the game for the $s I contributed | -1.70 | |
| 6 | getting special access to the charity's facilities | | 3.15 |
| 7 | accumulating badges that designate my number of followers for the charity | -2.10 | |
| 8 | knowing the amount given by others in my social network | -0.37 | |
| 9 | engaging my social network for charity | | 2.17 |
| 10 | getting special access to participate in the charity's board meeting | | -0.67 |
| 11 | seeing my name in a giving leader board | -0.14 | |
| 12 | seeing the names of people in my social network in a giving leader board | 0.35 | |
| 13 | accumulating badges that designate $s raised by my network for the charity | -0.05 | |
| 14 | competing against individuals within my social network | | 0.28 |
| 15 | receiving a $5 gift card or other gift for donating | 2.89 | |
| 16 | knowing that the charity's staff is active in the game | | 1.66 |
| 17 | accumulating badges that designate a giving level | 0.01 | |
| 18 | getting points that allow my social network to increase our level | -0.55 | |
| 19 | getting special status for the $s raised through my social network | -2.99 | |
| 20 | participating in a fundraising challenge or quest | | 1.55 |
| 21 | getting points that allow me to increase my level | 0.63 | |
| 22 | receiving a free invitation to host a table at a charity event | -2.27 | |
| 23 | competing against another's social network | | -2.55 |
| 24 | seeing the name of people in my social network in a giving leader board | -0.02 | |
| 25 | seeing my name in a giving leader board | 0.06 | |
| 26 | seeing the names of people outside my social network in a giving leader board | -2.60 | |
| 27 | knowing the amount donated by others outside my social network | -3.24 | |
| 28 | leading a fundraising challenge or quest | | -2.28 |
| 29 | learning more about the charity | | 4.46 |
| 30 | getting special access to participate in the charity's staff meetings | | -0.05 |
| 31 | using online games to engage donors | | 2.02 |
| 32 | donating to charity | | 5.37 |
| | Total Z-score | -15.60 | 15.59 |

*Note.* Z-scores calculated by Q-Assessor

My initial thoughts, before data analysis, were that intrinsic gamification elements would dominate donor motivation. The Q-sort data collected in this study does not clearly support this assumption, as approximately half of the Q-sort statements could be

viewed as either intrinsic or extrinsic in nature and as noted above, whether these are purely intrinsic depends largely on the viewpoint on the participant. Although the results of this research do not provide a clear path to understanding the intrinsic nature of the gamification elements studied, the results of the factor analysis and the grouping of Millennials do provide some insight. Factor D, which explained the highest variance in the study (15%), ranked learning more about the charity and becoming actively involved in the inner-workings of the organization as most impactful. This same group discounted the extrinsic gamification elements, suggesting that, at least for Factor D, intrinsic triggers created greater motivation to give. Apart from factor E (the gamers, let's play – but not compete), the remaining factors ranked the more extrinsic gamification elements higher than those that could be thought of as either intrinsic or extrinsic. Factor E (8% variance) Q-sort statement rankings suggested a mix of intrinsic and extrinsic motivations. Additionally, Factor E ranked giving to charity as neutral.

**Analysis of Findings Based on Literature Review**

As noted in Chapter 3, peer-reviewed literature on the topic of gamification specifically related to charitable giving is scarce and remains a topic lacking robust academic research. As a consequence, the relevant research used to inform this study was focused around Millennial giving practices. Three themes emerged from the review of the literature on Gen Y giving that can be connected to the results of this study. The first was Millennials needed to clearly understand the purpose of the charity before making a donation. A second was the increase in peer fundraising events hosted by the Gen Y cohort. Lastly, impulse giving was highlighted as a trend among Millennials.

What follows is a discussion of the findings of this study as it relates to each one of these Gen Y trends.

**Understanding the purpose of the charity.** Saratovsky and Feldmann (2013) highlighted the importance Gen Y potential donors place on understanding the charity's mission. This pre-requisite to giving was confirmed in both the Q-sort results and the interview comments of this study's participants. Table 18 lists the Q-sort statements and their cumulative Z-scores that relate to gaining a better understanding of the charity and how it operates.

Table 18

*Q-sort Statements Related to Knowing More About the Charity*

| # | Statement | Z-score |
|---|---|---|
| 3 | getting special access to the charity's programs | 2.02 |
| 6 | getting special access to the charity's facilities | 3.15 |
| 10 | getting special access to participate in the charity's board meeting | -0.67 |
| 16 | knowing that the charity's staff is active in the game | 1.66 |
| 29 | learning more about the charity | 4.46 |
| 30 | getting special access to participate in the charity's staff meetings | -0.05 |

*Note.* Z-scores calculated by Q-Assessor

Learning more about the charity received positive Q-sort values for all factors, emphasizing the importance Millennials place on this element in their decision to donate to a charity. Five of the 11 participants interviewed noted the importance of clearly understanding the purpose of the charity and how their donation was going to be used to further that mission. The other Q-sort statements related to gaining an understanding of the day-to-day operation of the nonprofit were predominately viewed as impacting, particularly "getting special access to the charity's programs and facilities." The statements that referred to getting access to attending staff and board meetings were

positively associated with participants in the factors D (the nongaming knowledge seeker) and B (the high engagement, with recognition for giving seeker). It should also be noted that these two factors were also the factors that had the least attraction to the more extrinsic gamification elements. The direct correlation between valuing the information regarding a charity's purpose and operations and devaluing extrinsic gamification elements cannot be substantiated by this study. However, this relationship may be of interest in future research.

**Peer fundraising and crowdfunding.** Peer fundraising and crowdfunding are gaining increasing popularity within the Gen Y community, and researchers have concluded that visibility to strong support early in an online crowdfunding campaign could predict the success of the campaign (Colombo et al., 2014). The results from this gamification study confirm that the Gen Y participants also valued the elements of gamification that provided visibility to fundraising activities. The elements of gamification that provide for this type of visibility can be found in Table 19, along with their cumulative Z-scores.

Table 19

*Q-sort Statements Related to Peer Fundraising*

| # | Statement | Z-score |
|---|---|---|
| 1 | knowing people in my social network gave to the charity | 1.42 |
| 4 | knowing people outside my social network gave to the charity | -2.94 |
| 8 | knowing the amount given by others in my social network | -0.37 |
| 9 | engaging my social network for charity | 2.17 |
| 12 | seeing the names of people in my social network in a giving leader board | 0.35 |
| 26 | seeing the names of people outside my social network in a giving leader board | -2.60 |
| 27 | knowing the amount donated by others outside my social network | -3.24 |

*Note.* Z-scores calculated by Q-Assessor

The pattern that emerges from the Z-scores in table 19, reflect that participants across all factors positively viewed gamification components that provided visibility to fundraising, as long as that visibility stayed within their social network. At the same time, visibility outside the network received negative Z-scores. The negative Z-scores relative to visibility outside the network suggests the Gen Y participants would be less interested in peer fundraising initiated from the outside and open call crowdfunding scenarios from individuals not known to the potential donor may not be the most impactful way to engage this cohort. The results of this study suggest that leveraging the network's social capital in the context of peer fundraising or crowdfunding may be a sound strategy for nonprofits to further their fundraising activities with Millennials.

**Impulse giving.** Hawthorne (2014) discussed Gen Y's attachment to their mobile device and how information pushed to this device can be used to trigger unplanned purchases and by extension could also create the impulse to make a charitable gift. Specific Q-sort statements affirming this conclusion were not included in the gamification study. However, interview comments by the participants do reinforce this notion. Of the 36 participants that completed the Q-sort, 15 noted in the post Q-sort comments that they believed being prompted by a game to make a donation was a novel, yet effective idea for a nonprofit to get donations.

Based on the data collected, there appears not to be a single answer to the research question of how Gen Y perceives the impact of gamification on donating to charity. The overall view of gamification components suggested that elements that enhance knowledge about the charity and special access to the charity and its operation would

drive the highest engagement levels. The nature of Q Methodology forced ranked the extensive use of social networking and leaderboards as having the least engagement impact. The Q-sort results suggest that the relative importance of the various gamification elements largely depends on the preferences of the Millennial interviewed and a one size fits all view of engagement factors is variable for this generation. Five factors were identified, and each reflected a unique set of gamification elements that were valued over other elements.

The factor explaining the highest Q-sort variance devalued most of the gaming elements typically associated with gamification, including leader boards, badges and point systems. This factor was nicknamed the 'non-gaming, knowledge seeker' valued leading a challenge or quest and those gamification elements that led to greater insights and direct engagement with the nonprofit. Engaging their social network for the charity was also important to this group as it enabled their highly valued philanthropic interests. Factor D scored the use of gamification as having negative impact, but at the same time scored the gamification elements of both leading and participating in a challenge very high. A potential explanation for this seemingly contradictory scoring is that perhaps this group did not view a challenge or quest as a gamification element and related the more common gamification components of leader boards, points and badges as gamification.

The 'high engagement with recognition for giving' group (factor B) was similar in many ways to factor D. Factor B also had philanthropic interests, with a strong need for engagement. Where factor B diverged from factor D with a much stronger need for the more clearly extrinsic gamification elements of leaderboards and badges. Other extrinsic

rewards that pointed to Factor B's less than altruistic motivation was receiving a gift in return for a donation.

## Limitations of the Study

There were several limitations to this study including the location of the study, the Q-sort sample, purposive sampling technique used and of course the bane of any qualitative study, researcher bias. The conduct of the study on the University of Arkansas campus focused participation to individuals seeking a higher education and therefore limits the generalizability of the results. Additionally, to avoid risk to minors, individuals younger than 18 were not included in the study, even though 16 to 18-year-olds are considered by most to be part of Gen Y. A second limitation was the Q-sort instrumentation. Two participants commented that they found the instructions for completing the Q-sort a bit confusing and it is possible that their Q-sorts may not have truly reflected their opinions about the ranking of the gamification components. I believe that providing immediate assistance to participants mitigated this limitation; however, it cannot be known with certainty that this completely resolved any potential limitations to transferability. Because a non-random sampling design was used, the study results cannot be generalized to the larger population.

Purposive sampling design by its nature introduced potential for researcher bias, particularly in the form of selection bias. Instead of the targeted even split between male and female participants, there were four more females than males that participated in the study. It is possible that this inequality stemmed from either an unconscious signaling from me or simply that a potential female participant had a higher comfort level

interacting with a female. In either case, this inequality limited the generalizability of the study. Researcher bias in the form of my abilities and depth of knowledge, particularly in the use of Q Methodology can also be viewed as a limitation to this study (Norris, 1997). I had no prior experience or formal training in the use of Q Methodology, increasing the possibility of methodological error in the construct or analysis of the Q-sort results.

## Recommendations

The body of research addressing gamification and how it may be used in the context of charitable giving by Millennials is limited, and consequently, the nature of this study is a preliminary look into this area of research. Factor analysis revealed five distinct views of the various gamification elements and how these are valued by each group of Gen Y participants. For this information to be leveraged by the nonprofit community, a better understanding of how the general population of Millennials load into the five groups and if a nonprofit's mission or potential donor base may favor one of the five groups over others. Nonprofit organizations considering the investment in gamification should first ensure they are aware of the characteristics of their potential donor base as it relates to gamification, to avoid wasting app development dollars on nonvalue add features. An additional dimension of understanding a charity's donor base is that of demographics. This study did not focus its analysis of gamification elements based on gender, race or socioeconomic status. Future research to evaluate gamification effectiveness based on these demographic dimensions is recommended to further the body of knowledge. The study was conducted in the United States and the findings presumably reflected the cultural norms of the United States. Moreover, given it is not

uncommon for U.S.-based nonprofits to fundraise outside the United States, studies to examine Gen Y preferences from a wider international and cultural lens is also recommended.

The use of gamification, in general, is not without its critics. Some scholars have challenged the ethics of using gamification at all, while others have gone as far as calling gamification exploitation-ware. This is a particularly serious challenge as it relates to using gamification in the context of encouraging charitable gifts. A nonprofit using points, leaderboards and badges to encourage donations would do well to understand the ethical issues of diminishing the "moral worth" their donors experience (Kim, 2014, p. 4). The caution to nonprofit fundraisers is that over-use or ill-conceived gamification design could result in short-term gains for a specific campaign, but ultimately creates a population of donors that are indifferent to the charity's mission. Any nonprofit considering gamification should take great care to ensure the design of their app balances the use of extrinsic gamification elements with the more intrinsic, to avoid the appearances of unfairly manipulating donors. Gaining feedback from potential donors in a test version of the app to ensure participants feel they are gaining (whether intrinsic or extrinsic gains) as much in using the app as the nonprofit. Additionally, scrutiny of the gamified app by the charity's board of directors is suggested to minimize the risk of manipulation and exploitation.

Despite the cautions outlined above relative to the use of gamification for charitable fundraising, the results of this study provide evidence that Millennials view gamification as a viable approach to encourage charitable giving. Use of gamification

elements that provide greater transparency into how donations are used, along with provisions that allow the donor access to the charity's operations are recommended for nonprofits deciding to invest in gamification.

## Implications for Social Change

The findings of this study have the potential to create positive social change by providing information and data to develop professionals and nonprofit organizational leaders who may use it to cultivate, educate and solicit individual charitable donations from members of the Millennial generation. The ultimate outcome would be an increased revenue stream that could enable nonprofit organizations to better fulfill their mission and serve their constituents. This study's findings also contribute to the existing body of knowledge about Gen Y's perspectives on charitable giving in general and using social media to fundraise. The findings can be used to enhance the awareness and understanding of nonprofit development teams as they create strategies to better engage Millennials.

From a methodological point of view, use of Q Methodology enabled me to capture the self-referent perceptions of the participants. The patterns of shared attitudes and opinions of the participants could systematically be analyzed through factor analysis and enriched through the one-on-one interviews. Future research in the context of gamification may find Q Methodology a powerful design methodology to advance the understanding of the viewpoints of Millennials.

I intend to disseminate the study findings via multiple communication channels including local presentations, national conference presentations and publication in peer-

reviewed journals. Study results will be shared locally with the Walmart Foundation, the Walden Family Foundation, the Northwest Arkansas Community College, the University of Arkansas Development Office, and the Northwest Arkansas Council. I am also planning to submit papers to gamification-focused conferences, the GWC (Gamification World Conference) 2017 conference, and the GSummit. Specific to the nonprofit sector, submissions to next year's International Fundraising Conference, Social Good Tech Week, and Cause Camp are planned. Publication to at least one peer-reviewed journal is also planned upon approval of this research by Walden University.

## Conclusion

Based on history, the revenue challenges faced by nonprofits are not going to disappear anytime soon, nor will the seemingly enigmatic charitable donation practices of Gen Y suddenly be well understood, or the longevity of gamification be foreseen. With this seemingly overwhelming level of uncertainty, knowing that at present Millennials embrace the notion of mixing gamification with fundraising can be used as a differentiator in attracting and keeping this generation of donors. Also, armed with the knowledge of the relative importance placed on transparency of how donations are used and how the charity operates, nonprofits will be able to engage with these donors in ways that are most important to the Millennial.

# References

ALS Association. (2015). The ALS ice bucket challenge is back! Retrieved from http://www.alsa.org/fight-als/ice-bucket-challenge.html?referrer=https://www.google.com/

Adams, E., & Dormans, J. (2012). *Game mechanics: Advanced game design*. [Books on Google Play]. Retrieved from https://books.google.com/books?hl=en&lr=&id=_Azio0txIdAC&oi=fnd&pg=PR7&dq=game+design&ots=RnlCXG4V2N&sig=KLxtvbBuHcg8g2EQ7quF6Lec-1c#v=onepage&q=game%20design&f=false

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*, 179-211. http://dx.doi.org/10.1016/0749-5978(91)90020-T

Anderson, J., & Rainie, L. (2012). *The future of gamification* [White paper]. Retrieved from Pew Research Center: http://www.pewinternet.org/2012/05/18/the-future-of-gamification/

Bartle, R. (1996). Hearts, clubs, diamonds, spades: Players who suit MUDs. *Journal of Virtual Environments*, *1*(1). Retrieved from http://mud.co.uk/richard/hcds.htm

Bartle, R. (2011, May 4). *Gamification: Too much of a good thing?* Paper presented at the Digital Shoreditch, London, England. Abstract retrieved from http://digitalshoreditch.com/gamification/

Bekkers, R. (2010). Who gives what and when? A scenario study of intentions to give time and money. *Social Science Research*, *39*, 369–381.

http://dx.doi.org/10.1016/j.ssresearch.2009.08.008

Bellotti, F., Kapralos, B., Lee, K., Moreno-Ger, P., & Berta, R. (2013). Assessment in and of serious games: An overview. *Advances in Human-Computer Interaction*, 2013, 1-11. http://dx.doi.org/10.1155/2013/136864

Blohm, I., & Leimeister, J. M. (2013, June). Gamification design of IT-based enhancing services for motivational support and behavioral change. *Business & Information System Engineering*, *4*, 275-278. http://dx.doi.org/10.1007/s12599-013-0273-5

Bogost, I. (2011, May 3). Persuasive games: Exploitationware [Online forum comment]. Retrieved from http://www.gamasutra.com/view/feature/6366/persuas

Boulet, G. (2012, December). Gamification: The latest buzzword and the next fad. *eLearn*. http://dx.doi.org/10.1145/2407138.2421596

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, *13(1*), 210-230. http://dx.doi.org/10.1111/j.1083-6101.2007.00393.x

Boyle, A. (2011, September 18). Gamers solve molecular puzzle that baffled scientists [Newsgroup comment]. Retrieved from Gamers solve molecular puzzle that baffled scientists

Breeze, B. (2010). *How donors choose charities*. Retrieved from Centre for Charitable Giving and Philanthropy: http://www.cgap.org.uk/uploads/reports/HowDonorsChooseCharities.pdf

Brown, M. (2004). *Illuminating patterns of perception: An overview of Q methodology* [Technical note]. Retrieved from Carnegie Mellon University - Software

Engineering Institute: http://www.sei.cmu.edu/reports/04tn026.pdf

Brown, S. R. (1980). *Political subjectivity - Applications of Q methodology in political science*. Retrieved from https://www.researchgate.net/publication/247202200_Political_Subjectivity_Applications_of_Q_Method_in_Political_Science

Brown, S. R. (1993). A primer on Q methodology. *Operant Subjectivity*, *16(3/4*), 91-138. Retrieved from https://www.researchgate.net/publication/244998835_A_Primer_on_Q_Methodology

Buhr, S. (2015, April 24). The 22 best Apple watch health and fitness apps [Newsgroup comment]. Retrieved from http://techcrunch.com/2015/04/24/the-22-best-apple-watch-health-and-fitness-apps/#.58moeyb:lAZX

Burke, B. (2014a, April 24). Nike's bid to dominate activity tracking with NikeFuel. *Forbes*. Retrieved from http://www.forbes.com/sites/gartnergroup/2014/04/24/nikes-bid-to-dominate-activity-tracking-with-nikefuel/

Burke, B. (2014b). *GAMIFY How gamification motivates people to do extraordinary things*. [Kindle]. Retrieved from https://read.amazon.com/?asin=B00I2ZW47W

Burke Johnson, R. (1997). Examining the validity structure of qualitative research. *Education*, *118(2*), 282-292. Retrieved from http://search.proquest.com/docview/196422157?accountid=14872

Caillois, R. (2001). *Man, play and games*. Retrieved from

http://townsendgroups.berkeley.edu/sites/default/files/roger-caillois-man-play-and-games-1.pdf

Carew Grovum, E., & Flandez, R. (2013). The big boom in online Giving. *The Chronicle of Philanthropy*. Retrieved from http://philanthropy.com/article/The-Big-Boom-in-Online-Giving/139965/

Castillo, M., Petrie, R., & Wardell, C. (2014). Fundraising through online social networks: A field experiment on peer-to-peer solicitation. *Journal of Public Economics*, *114*, 29-35. http://dx.doi.org/B.V. All rights 10.1016/j.jpubeco.2014.01.002

Charity Navigator. (2015). *Giving USA 2015, the annual report on philanthropy*. Retrieved from http://www.charitynavigator.org/index.cfm?bay=content.view&cpid=42#.VySEtaMrJYI

Choi, J. W., Lee, J. H., & Kim, K. Y. (2015). Exploring Millennial generation behavior of gamification contents converging with ICT and sharing economy: Hierarchical clustering analysis. *Computer Science and Its Applications*, 789-794. http://dx.doi.org/10.1007/978-3-662-45402-2_112

Ciconte, B. L., & Jacob, J. G. (2009). *Fundraising basics - a complete guide* (3rd ed.). Sudbury, MA: Jones and Bartlett.

Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2014). Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice*, 1-26. http://dx.doi.org/10.1111/etap.12118

Colón, B., Gibson, C. M., Lord, M., & Mannion, G. (2014, July 25). Social change requires foundations to help nonprofits extend their digital reach. *Chronicle of Philanthropy*. Retrieved from https://philanthropy.com/article/Social-Change-Requires/152819

Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & Education*, *59*, 661–686. http://dx.doi.org/10.1016/j.compedu.2012.03.004

Cramer, D., & Howitt, D. (Eds.). (2004). *The SAGE dictionary of statistics*. http://dx.doi.org/10.4135/9780857020123.n519

Cramer, D., & Howitt, D. (Eds.). (2004). *The SAGE dictionary of statistics*. http://dx.doi.org/10.4135/9780857020123.n629

Creswell, J. W., Hanson, W. E., Plano Clark, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist*, *35(2*), 236-264. http://dx.doi.org/10.1177/0011000006287390

Cross, R. M. (2004). Exploring attitudes: the case for Q methodology. *Health Education Research*, *20(2*), 206-213. http://dx.doi.org/10.1093/her/cyg121

Crowdrise. (2015). About. Retrieved November 6, 2015, from https://www.crowdrise.com/about

Curry, O., Roberts, S., & Dunbar, R. (2013). Altruism in social networks: evidence for a 'kinship premium'. *British Journal of Psychology*, *104(2*), 283-295. http://dx.doi.org/10.1111/j.2044-8295.2012.02119.x

Curtis, A. (2013). The brief history of social media. Retrieved April 9, 2014, from http://www2.uncp.edu/home/acurtis/NewMedia/SocialMedia/SocialMediaHistory.html

Curtis, L., Edwards, C., Fraser, K. L., Gudelsky, S., Holmquist, J., Thornton, K., & Sweetser, K. D. (2010). Adoption of social media for public relations by nonprofit organizations. *Public Relations Review*, *36*, 90-92. http://dx.doi.org/:10.1016/j.pubrev.2009.10.003

Daimler AG. (2015). About the contest. Retrieved November 11, 2015, from http://www.smart-design-contest.com/jury-prizes-contest/contest

De Franca, F. A., Vivacqua, A. S., & Campos, M. M. (2015, October). *Designing a gamification mechanism to encourage contributions in a crowdsourcing system*. Paper presented at the Institute of Electrical and Electronics Engineers, Cheile Gradistei, Romania. Retrieved from http://ieeexplore.ieee.org.ezp.waldenulibrary.org/stamp/stamp.jsp?tp=&arnumber=7231003

De Santana, S. J., Souza, H. A., Florentin, V. A., Paiva, R., Bittencourty, I. I., & Isontani, S. (2016, April). *A quantitative analysis of the most relevant gamification elements in an online learning environment*. Paper presented at the International World Wide Web Conference Committee, Montreal, Quebec, Canada. Retrieved from http://www2016.net/proceedings/companion/p911.pdf

Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. http://dx.doi.org/10.1007/978-1-4899-2271-7

Definition of app. (2016). In *Merriam-Webster dictionary*. Retrieved from http://www.merriam-webster.com/dictionary/app

Deterding, S. (2011). *Situated motivational affordances of game elements: A conceptual model*. Retrieved from Hans Bredow Institute for Media Research - University of Hamburg: http://gamification-research.org/wp-content/uploads/2011/04/09-Deterding.pdf

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). *From game design elements to gamefulness: Defining "Gamification*". Paper presented at the MindTrek, Tampere, Finland. Retrieved from http://www.hubscher.org/roland/courses/hf765/readings/Deterding_2011.pdf

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011). Gamification: Using game design elements in non-gaming contexts. Retrieved from http://gamification-research.org/wp-content/uploads/2011/04/01-Deterding-Sicart-Nacke-OHara-Dixon.pdf

Dixon, D. (2011, May). *Player types and gamification*. Paper presented at the Computer Human Interaction, Vancouver, BC, Canada. Retrieved from http://gamification-research.org/wp-content/uploads/2011/04/11-Dixon.pdf

Djaouti, D., Alvarez, J., Jessel, J., & Rampnoux, O. (2011). Origins of serious games. In M. Ma, A. Oikomonou, & L. C. Jane (Eds.), *Serious games and edutainment applications* (pp. 25-43). http://dx.doi.org/10.1007/978-1-4471-2161-9_3

Doherty, M. J. (2014). Exploring project manager insights about IT project success using Q-methodology. *Journal of Technology Research*, *5(1*), 1-24. Retrieved from

http://search.proquest.com/docview/1564441058?accountid=14872

Eastman, J. K., Iyer, R., Liao-Troth, S., Williams, D. F., & Griffin, M. (2014, October 1). The role of involvement on Millennials' mobile technology behaviors: The moderating impact of status consumption innovation, and opinion leadership. *Journal of Marketing Theory and Practice*, *22(4)*, 455-470. http://dx.doi.org/10.2753/MTP1069-6679220407

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, H., K., & Kyngäs, H. (2014, February 11). Qualitative content analysis - A focus on trustworthiness. *Sage Open*. http://dx.doi.org/10.1177/2158244014522633

Endicott, L. (2010). *Institutional Review Board (IRB) frequently asked questions* [Video file]. Retrieved from http://my.campuscruiser.com/cruiser/waldenu/ctl/self-paced_trainings/irb/IRB.htm

Endicott, L. (n.d.). *Institutional Review Board frequently asked questions* [Video file]. Retrieved from https://waldencfe.adobeconnect.com/irb/

Engagement Alliance. (2015). Get certified. Retrieved April 26, 2015, from http://engagementalliance.org/get-certified/get-certified/

Enterprise Gamification. (2014). Gamification cost ranges. Retrieved April 25, 2016, from http://www.enterprise-gamification.com/mediawiki/index.php?title=Category%3AGamification_Cost_Ranges

Farmer, A. D., Bruckner Holt, C. E., Cook, M. J., & Hearing, S. D. (2009). Social networking sites: a novel portal for communication. *Postgrad Med Journal*, *85*,

455-459. http://dx.doi.org/10.1136/pgmj.2008.074674

Feldmann, D., Hosea, J., Ponce, J., Wall, M., & Banker, L. (2015). *The millennial impact project* [White paper]. Retrieved from The Millennial Impact website: themillennialimpact.com.

Ferguson, B. (2012, June). Games for wellness—Impacting the lives of employees and the profits of employers. *Games for Health Journal*, *1(3*), 177-179. http://dx.doi.org/10.1089/g4h.2012.0023

Fine, A. (2014, November 20). Matterness: what fearless leaders know about the power and promise of social media. (M. Nauffts, Interviewer). *Philanthropy News Digest.* Retrieved from http://philanthropynewsdigest.org/5-questions-for/allison-fine-author-matterness

Fogg, B. J. (2009). *A behavior model for persuasive design*. Retrieved from Stanford University Persuasive Technology Lab: http://bjfogg.com/fbm_files/ page4_1.pdf

Ford, J. K., MacCallum, R. C., & Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology*, *39*, 291-314. http://dx.doi.org/10.1111/j.1744-6570.1986.tb00583.x

freshdesk. (2015). Increase your team's engagement and productivity. Retrieved November 11, 2015, from https://freshdesk.com/productivity

Friedman, S., Miller, A. C., & Weinerman Steinberg, D. (2014). *Connected to give: Risk & relevance* [Fact sheet]. Retrieved from Connected to Give: http://connectedtogive.org/wp-content/uploads/2014/11/ConnectedToGive_RiskRelevance_Jumpstart2014_v1.1.

pdf

From Fitbit to fitocracy: The Rise of health care gamification [Newsgroup comment]. (2013, January 16). Retrieved from http://knowledge.wharton.upenn.edu/article/from-fitbit-to-fitocracy-the-rise-of-health-care-gamification/#

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26(4*), 331-362. http://dx.doi.org/10.1002/job.322

Games Learning Society. (2015). Games. Retrieved November 10, 2015, from http://www.gameslearningsociety.org/research.php

Gerber, E. M., Hui, J. S., & Kuo, P. Y. (2013). *Crowdfunding: Why people are motivated to post and fund projects on crowdfunding platforms*. Retrieved from Northwestern University: http://juliehui.org/wp-content/uploads/2013/04/CSCW_Crowdfunding_Final.pdf

Glover, I. (2013, June). *Play as you learn: Gamification as a technique for motivating learners*. Paper presented at the Association for the Advancement of Computing in Education, Victoria, Canada. Retrieved from http://www.editlib.org/p/112246/

Gose, B. (2013, August 11). Young people like to be involved and want peer approval. *Chronicle of Philanthropy*. Retrieved from https://philanthropy.com/article/Young-Donors-Like-to-Be/150673

Gray, D. E. (2013). Theoretical perspectives and research methodologies. In *Doing research in the real world* (3rd ed., pp. 16-38). Retrieved from

http://www.sagepub.in/upm-data/58626_Gray__Doing_Research_in_the_Real_World.pdf

Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods*, *18(1*), 59-82. http://dx.doi.org/10.1177/1525822X05279903

Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). *Does gamification work? — A literature Review of empirical studies on gamification*. Paper presented at the Hawaii International Conference on System Sciences, Hawaii, USA. Retrieved from http://scholar.google.com/scholar?q=why+does+gamification+work&hl=en&as_sdt=0,44&scilu=3,11949518541340535585:1&scisig=AMstHGQAAAAAU-j4B2BY7cLPTZHc1Zd9MxTGej2tylfw

Hanus, M. D., & Fox, J. (2014). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, *80*, 151-162. http://dx.doi.org/10.1016/j.compedu.2014.08.019

Harjumaa, M., & Muuraiskangas, S. (2014). Building persuasiveness into information systems. *Electronic Journal Information Systems Evaluation*, *17(1*), 23-35. Retrieved from file:///Users/karenkavanaugh/Downloads/ejise-volume17-issue1-article935.pdf

Harper, F. M., Li, S. X., Chen, Y., & Konstan, J. A. (2007, April). *Social comparisons to motivate contributions to an online community*. Paper presented at the Persuasive

Technology, Palo Alto, CA. Retrieved from http://www.researchgate.net/profile/Pablo_De_Diesbach/publication/220962682_Embodied_Agents_on_a_Website_Modelling_an_Attitudinal_Route_of_Influence/links/53d0b3340cf25dc05cfe5959.pdfhttp://www.researchgate.net/profile/Pablo_De_Diesbach/publication/220962682_Embodied_Agents_on_a_Website_Modelling_an_Attitudinal_Route_of_Influence/links/53d0b3340cf25dc05cfe5959.pdf

Harvard Kennedy School. (n.d.). About social capital. Retrieved from https://www.hks.harvard.edu/programs/saguaro/about-social-capital

Hawthorne, R. (2014). Understanding what motivates Millennials to give to your NPO. Retrieved from http://www.nonprofithub.org/fundraising/understanding-motivates-millennials-give-npo/

Head, E. (2009, October). The ethics and implications of paying participants in qualitative research. *International Journal of Social Research Methodology*, *12(4*), 335-344. http://dx.doi.org/10.1080/13645570802246724

Higi. (2015). The easiest way to track and understand your health. Retrieved November 10, 2015, from https://higi.com/

Kampen, J. K., & Tamas, P. (2013, November 9). Overly ambitious: contributions and current status of Q methodology. *Quality & Quality*, *48*, 3109-3126. http://dx.doi.org/10.1007/s11135-013-9944-z

Karlan, D., & McConnell, M. A. (2014). Hey look at me: The effect of giving circles on giving. *Journal of Economic Behavior & Organization, 106,* 402-412. http://dx.doi.org.ezp.waldenulibrary.org/10.1016/j.jebo.2014.06.013

Kasser, T., & Ryan, R. M. (1996, March). Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, *22(3*), 280-287. http://dx.doi.org/10.1177/0146167296223006

Kavanaugh, K. L. (2014). *The gamification of fundraising*. Elm Springs, AR: Author.

Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, *54*, 241-251. http://dx.doi.org/10.1016/j.bushor.2011.01.005

Kim, B. (2015). Designing gamification in the right way. *Library Technology Reports*, *51(2*), 29-35. Retrieved from http://web.b.ebscohost.com.ezp.waldenulibrary.org/ehost/pdfviewer/pdfviewer?sid=ecfc4558-a2df-4250-9cc3-1dd892d16d27%40sessionmgr110&vid=2&hid=105

Kim, G. J. (2015). *Human-computer interaction*. Retrieved from http://www.ittoday.info

Kim, T. W. (2014). *Gamification ethics: Exploitation and manipulation* [Working papers]. Retrieved from Tepper School of Business- Carnegie Mellon University: http://gamification-research.org/wp-content/uploads/2014/11/GAMICHI15_kim.pdf

King, D., Greaves, F., Exeter, C., & Darzi, A. (2013). 'Gamification': Influencing health behaviours with games. *Journal of Royal Society of Medicine*, *106*, 76-78. http://dx.doi.org/10.1177/0141076813480996

Kline, P. (1994). *An easy guide to factor analysis*. Retrieved from

http://samples.sainsburysebooks.co.uk/9781317725602_sample_863071.pdf

Kline, R. (2013). *Exploratory and confirmatory factor analysis* (Psychology Concordia). Retrieved from Psychology Concordia: http://psychology.concordia.ca/fac/kline/library/k13b.pdf

Konert, J., Göbel, S., & Steinmetz, R. (2013, October). *Modeling the Player, Learner and Personality: Independency of the models of Bartle, Kolb and NEO-FFI (Big5) and the implications for game based learning*. Paper presented at the European Conference on Games Based Learning, Porto, Portugal. Retrieved from http://issuu.com/acpil/docs/ecgbl2013-issuu_vol_1

Krueger, R. A., Casey, M. A., Donner, J., Kirsch, S., & Maack, J. N. (2001). *Social analysis: Selected tools and techniques* (The World Bank). Retrieved from Social Development Family of the World Bank: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.607.4701&rep=rep1&type=pdf#page=30

Landers, R. N. (2014). Developing a theory of gamified learning: Linking serious games and gamification of learning. *Simulation & Gaming*, *45(6*), 752–768. http://dx.doi.org/10.1177/1046878114563660

Largent, E. A., Grady, C., Miller, F. G., & Wertheimer, A. (2012). Money, coercion, and undue inducement: A survey of attitudes about payments to research participants. *IRB*, *34(1*)(1), 1-8. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4214066/

Laverty, S. M. (2003). Hermeneutic phenomenology and phenomenology: A comparison

of historical and methodological considerations. *International Journal of Qualitative Methods*, *2(3*), 21-35. Retrieved from http://socialiststudies.com/index.php/IJQM/article/view/4510/3647

Leckie, G. (2008). Researcher roles. In L. M. Given, *The Sage encyclopedia of qualitative research methods* (pp. 772-778). http://dx.doi.org/10.4135/9781412963909

Lee, S., & Lim, S. (2014, December). *Considerations on gamification of e-learning application: Case study with phrase building training application*. Paper presented at the Multimedia, Computer Graphics and Broadcasting, Haikou, China. Retrieved from 10.1109/MulGraB.2014.20

Mallon, M. (2013, August 8). Gaming and gamification. *Public Services Quarterly*, *9(3*), 210-221. http://dx.doi.org/Retrieved from

Marczewski, A. (2013, August 12). A new perspective on the Bartle player types for gamification [Online forum comment]. Retrieved from http://www.gamification.co/2013/08/12/a-new-perspective-on-the-bartle-player-types-for-gamification/

Marx, J. D., & Carter, V. B. (2014). Factors influencing U.S. charitable Giving during the great recession: Implications for nonprofit administration. *Administrative Sciences*, 4, 350–372. http://dx.doi.org/10.3390/admsci4030350

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Mayer, I., Bekebrede, G., Harteveld, C., Warmelink, H., Zhou, Q., Van Ruijven, T., ...

Wenzler, I. (2014). The research and evaluation of serious games: Toward a comprehensive methodology. *British Journal of Educational Technology*, *45(3*), 502-527. http://dx.doi.org/10.1111/bjet.12067

McCambridge, R. (2015, April 15). Useful study reveals generational differences in what engages donors. *Nonprofit Quarterly*. Retrieved from http://nonprofitquarterly.org/2015/04/15/useful-study-reveals-generational-differences-in-what-engages-donors/

McGinn, M. K. (2008). Researcher - Participant relationships. In L. M. Given, *The Sage encyclopedia of qualitative research methods* (pp. 768-772). http://dx.doi.org/10.4135/9781412963909

McKeown, B., & Thomas, D. B. (2013). *Q methodology* (2nd ed.). [Google Play]. Retrieved from https://play.google.com/books/reader?id=jbYgAQAAQBAJ&printsec=frontcover&output=reader&hl=en&pg=GBS.PP1

Meister, J. (2013, January 2). How Deloitte made learning a game. *Harvard Business Review*. Retrieved from https://hbr.org/2013/01/how-deloitte-made-learning-a-g/

MindTrek. (2016). Academic MindTrek conference. Retrieved from http://www.mindtrek.org/2016/academic/

Monjack, J. (2011, May 16). Will gamification be ubiquitous in 5 years? [Newsgroup comment]. Retrieved from http://gametuned.com/2011/05/will-gamification-be-ubiquitous-in-5-years/

Morrow, S. L. (2005). Quality and trustworthiness in qualitative research in counseling

psychology. *Journal of Counseling Psychology*, *52(2*), 250-260. http://dx.doi.org/10.1037/0022-0167.52.2.250

Morton, A. J., & Sasse, M. A. (2014). *Desperately seeking assurances: segmenting users by their information-seeking preferences: A Q methodology study of users' ranking of privacy, security & trust cues*. Retrieved from University College London Department of Computer Science: http://discovery.ucl.ac.uk/1443292/1/Desperately%20Seeking%20Assurances%20-%20Segmenting%20Users%20by%20their%20Information-Seeking%20Preferences%20-%20A%20Q%20Methodology%20Study%20of%20Users%E2%80%99%20Ranking%20of%20Privacy,%20Security%20%26%20Trust%20Cues.pdf

Moustakas, C. (1994). *Phenomenological research methods*. http://dx.doi.org/10.4135/9781412995658

Mulaik, S. A. (2004). Factor analysis. In M. S. Lewis-Beck, A. Bryman, & T. F. Liao (Eds.), *The SAGE encyclopedia of social science research methods*. http://dx.doi.org/10.4135/9781412950589.n324

Muntean, C. I. (2011). *Raising engagement in e-learning through gamification*. Paper presented at the International Conference on Virtual Learning, Kelowna, Canada. Retrieved from http://icvl.eu/2011/disc/icvl/documente/pdf/met/ICVL_ModelsAndMethodologies_paper42.pdf

National Center for Education Statistics. (2015). Digest of education statistics. Retrieved

May 12, 2016, from https://nces.ed.gov/programs/digest/d14/tables/dt14_104.20.asp

Nicholas, J. B. (2011, February). *Reliability in Q methodology: A case study*. Paper presented at the Eastern Education Research Association Annual Conference, Sarasota, FL. Retrieved from https://www.academia.edu/718386/Reliability_in_Q_Methodology_A_Case_Study

Norris, N. (1997). Error, bias and validity in qualitative research. *Educational Action Research*, *5:1*, 172-176. http://dx.doi.org/10.1080/09650799700200020

O'Leary, K., Wobbrock, J. O., & Riskin, E. A. (2013, April). *Q-Methodology as a research and design tool for HCI*. Paper presented at the CHI, Paris, France. Retrieved from http://students.washington.edu/kathlo/HCI-Q-CAMERAReady.pdf

O'Reilly, M., & Parker, N. (2013). 'Unsatisfactory saturation: A critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, *13(2*), 190-197. http://dx.doi.org/ 10.1177/1468794112446106

O'Sullivan, E., Rassel, G. R., & Berner, M. (2008). *Research methods for public administrators* (5th ed.). New York: Pearson/Longham.

Okasha, S. (2013). Biological altruism. In *Stanford encyclopedia of philosophy*. Retrieved from http://plato.stanford.edu/entries/altruism-biological/

Orchard, L. J. (2014, April 2). Investigating the Facebook experience through Q Methodology: Collective investment and a 'Borg' mentality. *New Media &*

*Society*. http://dx.doi.org/10.1177/1461444814530099

Osborne, J. W., & Costello, A. B. (2009). Best practices in exploratory factor analysis: Four recommendations for getting the most from your data. *Pan-Pacific Management Review*, *12(2*), 131-146. Retrieved from https://www.researchgate.net/publication/209835856_Best_Practices_in_Exploratory_Factor_Analysis_Four_Recommendations_for_Getting_the_Most_From_Your_Analysis

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: SAGE.

Paulin, M., Ferguson, R. J., Jost, N., & Fallu, J. M. (2014). "Motivating millennials to engage in charitable causes through social media. *Journal of Service Management*, *25(3*), 334 - 348. http://dx.doi.org/10.1108/JOSM-05-2013-0122

Pew Research Center. (2015). *America's changing religious landscape*. Retrieved from http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/

Q-Assessor. (2015a). Making sense of your results. Retrieved March 24, 2016, from http://q-assessor.com/entries/3014

Q-Assessor. (2015b). Managing data. Retrieved April 2, 2016, from http://q-assessor.com/pages/3008

Q-Assessor. (2015c). Managing participant enrollment. Retrieved April 14, 2016, from http://q-assessor.com/pages/3006

Reber, B. H., & Kaufman, S. E. (2011, September). *Q-Assessor: Developing and testing an online solution to Q method data gathering and processing*. Paper presented at

the World Association for Public Opinion Research, Amsterdam, Netherlands. Retrieved from file:///Users/karenkavanaugh/Downloads/wapor-2011_Reber_Kaufman%20(1).pdf

Reber, B. H., Kaufman, S. E., & Cropp, F. (2000, July). Assessing Q-Assessor: A validation study of computer-based Q sorts versus paper sorts. *Operant Subjectivity*, *23(4*), 192-209. Retrieved from file:///Users/karenkavanaugh/Downloads/qassessor%20(1).pdf

Reinstein, D., & Riener, G. (2012). Reputation and influence in charitable giving: an experiment. *Theory and Decision*, *72*, 221–243. http://dx.doi.org/10.1007/s11238-011-9245-8

Renaud, C., & Wagoner, B. (2011). The gamification of learning. *Principal Leadership*, *12(1*), 57-59. Retrieved from http://sfxhosted.exlibrisgroup.com/waldenu?url_ver=Z39.88-2004&url_ctx_fmt=infofi/fmt:kev:mtx:ctx&ctx_enc=info:ofi/enc:UTF-8&ctx_ver=Z39.88-2004&rfr_id=info:sid/sfxit.com:azlist&sfx.ignore_date_threshold=1&rft.object_id=2940000000001495&rft.object_portfolio_id=

Rhoads, J. C. (2007). Q methodology. In N. J. Salkind & K. Rasmussen, *Encyclopedia of measurement and statistics* (pp. 800-803). http://dx.doi.org/10.4135/9781412952644

Ritchie, J., & Lewis, J. (Eds.). (2003). *Qualitative research practice: A guide for social science students and researchers*. Retrieved from http://www.sxf.uevora.pt/wp-

content/uploads/2013/03/Ritchie_2003.pdf

Rudestam, K. E., & Newton, R. R. (2007). *Surviving your dissertation: A comprehensive guide to content and process* (3rd ed.). [VitalSource Bookshelf]. Retrieved from http://bookstore.mbsdirect.net/

Rughinis, R. (2013, June 19). Gamification for productive interaction: Reading and working with the gamification debate in education. *IEEE Xplore*, 1-5. Retrieved from http://ieeexplore.ieee.org.ezp.waldenulibrary.org/stamp/stamp.jsp?tp=&arnumber=6615731

Salesforce.com. (2015). The sales performance platform. Retrieved November 10, 2015, from http://leveleleven.com/product/learn-more/

Saratovsky, K. D., & Feldmann, D. (2013). *Cause for Change: The why and how of nonprofit Millennial engagement*. [Adobe Digital Editions]. Retrieved from https://books.google.com/books

Sargeant, A. (2014). A retrospective - Charitable giving: Towards a model of donor behavior. *Social Business*, *4(4*), 293-323. http://dx.doi.org/10.1362/204440814X14185703122847

Scharf, K., & Smith, S. (2014). *Relational warm glow and giving in social groups* (CESifo Working Paper NO. 4879). Retrieved from University of Munich Center for Economic Studies & Ifo Institute: http://www.econstor.eu/bitstream/10419/102131/1/cesifo_wp4879.pdf

Schwandt, T. A. (2007). Sampling logic. In *The SAGE dictionary of qualitative inquiry*

(3rd ed., pp. 270-272). http://dx.doi.org/10.4135/9781412986281

Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. *International Journal of Human-Computer Studies*, *74*, 14–31. http://dx.doi.org/10.1016/j.ijhcs.2014.09.006

Shemmings, D., & Ellingsen, I. T. (2012). Using Q methodology in qualitative interviews. In J. F. Gubrium, J. A. Holstein, A. B. Marvasti, & K. D. McKinney, *The SAGE handbook of interview research: The complexity of the craft* (2nd ed., pp. 415-427). http://dx.doi.org/10.4135/9781452218403

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*, 63–75. Retrieved from http://www.crec.co.uk/docs/Trustworthypaper.pdf

Shinebourne, P. (2009). Using Q method in qualitative research. *International Journal of Qualitative Methods*, *8(1*), 94-97. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.535.5649&rep=rep1&type=pdf

Silpasuwanchai, C., Ma, X., Shigemasu, H., & Ren, X. (2016, June). *Developing a comprehensive engagement framework of gamification for reflective learning*. Paper presented at the Designing Interactive Systems, Brisbane, Australia. Retrieved from 0.1145/2901790.2901836

Simões, J., Díaz Redondo, R., & Fernández Vilas, A. (2012). A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, *29(2*), 345–353. http://dx.doi.org/10.1016/j.chb.2012.06.007

Singh, S. P. (2012). Gamification: A strategic tool for organizational effectiveness. *International Journal of Management*, *1*(1), 108-114. Retrieved from http://www.zahiruddinarif.yolasite.com/resources/AIJM%20June%202012.pdf#page=109

SlimKicker. (2013). Take your body to the next level. Retrieved November 10, 2015, from http://www.slimkicker.com/about

Smith, S., Windmeijer, F., & Wright, E. (2013). Peer effects in charitable giving: Evidence from the (running) field. *The Economic Journal*.

Software Insider. (2016). Compare gamification platforms. Retrieved April 27, 2016, from http://gamification.softwareinsider.com/

Souppaya, M., & Scarfone, K. (2013). *Guidelines for managing the security of mobile devices in the enterprise* [Policy brief]. Retrieved from National Institute of Standards and Technology – U.S. Department of Commerce: 10.6028/NIST.SP.800-124rl

Stephenson, W. (1953). *The study of behavior: Q technique and its methodology* (3rd ed.). Chicago, IL: University of Chicago Press.

Stephenson, W. (1994, October/January). Introduction to Q-methodology. *Operant Subjectivity*, *17(1/2*) (1/2), 1-13. http://dx.doi.org/10.15133/j.os.1993.006

Tempel, E. R., Seiler, T. L., & Aldrich, E. A. (2011). *Achieving excellence in fundraising* (3rd ed.). San Francisco, CA: Jossey-Bass.

Toossi, M. (2009, November). Employment outlook 2008-18: Labor force projections to 2018: older workers staying more active. *Monthly Labor Review*, 30-51.

Retrieved from http://www.bls.gov/opub/mlr/2009/11/art3full.pdf

Tracy, S. J. (2011). Qualitative quality: Eight "Big-Tent" criteria for excellent qualitative research. *Qualitative Inquiry*, *16(10*), 837–851. http://dx.doi.org/10.1177/1077800410383121

Transparency Market Research. (2014). *Social gaming market - Global industry analysis, size, share, growth, trends and forecast, 2013 - 2019* [Market analysis]. Retrieved from http://www.transparencymarketresearch.com/social-gaming-market.html

Trochim, M. K. (2006). *Research methods knowledge base*. Retrieved from http://www.socialresearchmethods.net/kb/qualval.php

Trochim, W. M. (2006). Measurement validity types. Retrieved from http://www.socialresearchmethods.net/kb/measval.php

U. S. Census Bureau. (2014). Population of the United States. Retrieved September 18, 2014, from http://www.census.gov/popclock/

University of Arkansas Office of Institutional Research. (2014). Enrollment by age. Retrieved July 25, 2014, from http://oir.uark.edu/students/enrollment_age.html

Urban Institute. (2010). *National study of nonprofit-government contracting* [Survey]. Retrieved from Center on Nonprofits and Philanthropy: http://www.urban.org/UploadedPDF/412227-National-Study-of-Nonprofit-Government.pdf

Valenta, A. L., & Wigger, U. (1997). Q-methodology -Definition and application in health care informatics. *Journal of the American Medical Informatics Association*, *4(6*), 501-510. Retrieved from

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC61268/

Vassileva, J. (2012, March 10). Motivating participation in social computing applications: a user modeling perspective. *User Modeling & User-Adapted Interaction*, *22(1/2*), 177-201. http://dx.doi.org/10.1007/s11257-011-9109-5

Walden University. (2014). *2014 social change impact report*. Retrieved from http://www.waldenu.edu/~/media/Files/WAL/about/scir/2014-social-change-impact-report.pdf

Walden University. (2015). Walden total student population and demographics, including undergraduate and graduate. Retrieved March 12, 2016, from https://mediacdn.waldenu.edu/-/media/files/wal/about/data/total-student-population-and-demographics-v2.pdf?la=en&v1

Walden University Center for Research Quality. (2015). Research resources: Walden University participant pool. Retrieved April 10, 2016, from http://academicguides.waldenu.edu/researchcenter/resources/participantpool

Walden University and Harris Interactive. (2011). *Social change impact report*. Retrieved from http://www.waldenu.edu/~/media/Files/WAL/about/walden-university-social-change-impact-report-summary-report.pdf

Watts, S., & Stenner, P. (2005). Doing Q methodology: theory, method and interpretation. *Qualitative Research in Psychology*, *2(1*), 67-91. http://dx.doi.org/10.1191/1478088705qp022oa

Webler, T., Danielson, S., & Tuler, S. (2009). *Using Q method to reveal social perspectives in environmental research*. Retrieved from Social and Environmental

Research Institute: www.seri-us.org/sites/default/files/Qprimer.pdf

Werbach, K., & Hunter, D. (2012). *For the win: How game thinking can revolutionize your business*. [iBook]. Retrieved from https://books.google.com/books?hl=en&lr=&id=abg0SnK3XdMC&oi=fnd&pg=PA7&dq=for+the+win&ots=aQqq_h7IEl&sig=UJov0xki8ksKImL282k0NWtG668#v=onepage&q=for%20the%20win&f=false

Zabala, A., & Pascual, U. (2016, February 4). Bootstrapping Q Methodology to improve the understanding of human perspectives. *PLoS ONE*, *11(2*), 1-19. http://dx.doi.org/10.1371/journal.pone.0148087

Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game mechanics in web and mobile apps* (1st ed.). [Books on Google Play]. Retrieved from https://books.google.com/books?hl=en&lr=&id=zZcpuMRpAB8C&oi=fnd&pg=PR7&dq=gamification+design&ots=UtP941vf9f&sig=kdFdfUMXCSB1QjyuLdhvcP-9Cqg#v=onepage&q=gamification%20design&f=false

Zuckerman, O., & Gal-Oz, A. (2014). Deconstructing gamification: evaluating the effectiveness of continuous measurement, virtual rewards, and social comparison for promoting physical activity. Personal and Ubiquitous Computing, 18, 705–1719. http://dx.doi.org/10.1007/s00779-014-0783-2

# Appendix A: Q-sort Statements

1 knowing people in my social network gave to the charity
2 receiving special status for the number of people I refer to the charity
3 getting special access to the charity's programs
4 knowing people outside my social network gave to the charity
5 receiving special status in the game for the $s I contributed
6 getting special access to the charity's facilities
7 accumulating badges that designate my number of followers for the charity
8 knowing the amount given by others in my social network
9 engaging my social network for charity
10 getting special access to participate in the charity's board meeting
11 seeing my name in a giving leader board
12 seeing the names of people in my social network in a giving leader board
13 accumulating badges that designate $s raised by my network for the charity
14 competing against individuals within my social network
15 receiving a $5 gift card or other gift for donating
16 knowing that the charity's staff is active in the game
17 accumulating badges that designate a giving level
18 getting points that allow my social network to increase our level
19 getting special status for the $s raised through my social network
20 participating in a fundraising challenge or quest
21 getting points that allow me to increase my level
22 receiving a free invitation to host a table at a charity event
23 competing against another's social network
24 seeing the name of people in my social network in a giving leader board
25 seeing my name in a giving leader board
26 seeing the names of people outside my social network in a giving leader board
27 knowing the amount donated by others outside my social network
28 leading a fundraising challenge or quest
29 learning more about the charity
30 getting special access to participate in the charity's staff meetings
31 using online games to engage donors
32 donating to charity

# Appendix B: Q-sort Questions

1. Please share any feedback you may have about this study.
2. Please share any other thoughts you may have about using gamification to engage users in donating to charity.
3. Please select your ethnicity of origin (or race):
    a. African American
    b. Asian or Pacific Islander
    c. Latino or Hispanic
    d. Native American or American Indian
    e. White or Caucasian
    f. Other
    g. I do not want to answer
4. What gender do you identify with?
    a. Male
    b. Female

# Appendix C: Correlation Matrix

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 100 | 38 | 52 | -5 | 23 | 24 | 11 | -13 | 14 | -12 | -12 | 36 | 43 | 64 | 28 | 35 | 46 | 28 | 39 | 11 | 50 | 45 | 30 | 45 | -23 | 42 | 5 | -25 | 48 | 39 | 43 | 32 | -7 | 0 | 20 | -5 |
| 2 | 38 | 100 | 13 | -15 | 4 | 21 | -11 | 17 | -10 | -37 | -17 | -3 | 11 | 44 | 33 | 8 | 52 | 26 | 17 | -7 | 6 | 16 | -6 | 62 | -2 | 41 | -26 | 18 | 27 | 33 | 12 | 0 | 5 | 6 | -4 | 35 |
| 3 | 52 | 13 | 100 | 16 | -12 | -7 | -3 | 9 | 38 | 6 | 7 | 29 | 23 | 41 | -9 | 39 | 37 | 19 | 35 | 25 | 28 | 7 | 30 | 9 | -36 | 7 | -6 | -24 | 30 | 27 | 38 | 35 | -12 | -16 | 36 | -27 |
| 4 | -5 | -15 | 16 | 100 | 9 | 7 | 3 | 9 | -5 | 30 | -8 | 10 | 27 | -4 | -24 | 5 | 6 | 13 | -3 | -5 | 31 | 3 | 14 | -7 | -11 | -9 | 1 | -5 | -17 | 16 | 14 | -4 | -27 | 0 | 19 | -11 |
| 5 | 23 | 4 | -12 | 9 | 100 | 5 | 18 | -6 | -17 | 12 | -7 | -18 | 12 | -3 | 26 | -2 | 0 | 2 | 7 | 30 | 20 | 23 | 26 | 42 | 16 | 41 | 26 | -6 | 10 | 46 | -19 | -27 | 16 | 54 | -34 | -1 |
| 6 | 24 | 21 | -7 | 7 | 5 | 100 | 2 | -27 | 5 | -33 | -42 | 29 | -16 | 41 | 8 | 41 | 25 | 35 | 11 | -14 | 40 | 18 | -16 | 27 | -5 | 11 | -19 | -1 | 19 | 12 | 14 | 20 | -20 | -17 | 9 | 27 |
| 7 | 11 | -11 | -3 | 3 | 18 | 2 | 100 | 3 | -31 | 25 | 0 | -1 | 18 | 1 | 3 | -14 | -12 | -9 | 21 | 23 | 2 | 10 | 36 | 26 | 17 | 14 | 22 | -16 | 13 | 14 | -23 | -38 | 16 | 29 | -24 | -10 |
| 8 | -13 | 17 | 9 | 9 | -6 | -27 | 3 | 100 | 4 | 7 | -3 | -17 | 14 | 16 | -33 | 12 | 6 | -7 | -5 | 16 | -17 | -30 | 9 | -3 | -20 | -5 | 12 | -25 | -16 | -9 | -3 | -5 | 8 | 4 | 11 | -30 |
| 9 | 14 | -10 | 38 | -5 | -17 | 5 | -31 | 4 | 100 | -25 | 10 | 15 | 7 | 31 | -22 | 45 | 13 | -9 | 25 | 34 | 20 | -10 | -12 | -3 | -66 | 27 | -17 | -30 | 25 | 0 | 46 | 56 | -2 | -5 | 20 | -9 |
| 10 | -12 | -37 | 6 | 30 | 12 | -33 | 25 | 7 | -25 | 100 | 33 | 10 | 12 | -17 | -9 | -29 | -11 | 2 | -9 | 11 | -15 | -4 | 52 | -13 | 25 | -22 | 34 | 15 | 9 | 5 | -5 | -17 | 16 | 12 | 12 | -38 |
| 11 | -12 | -17 | 7 | -8 | -7 | -42 | 0 | -3 | 10 | 33 | 100 | 30 | -9 | -20 | 30 | -18 | -2 | -5 | 7 | 16 | -7 | -1 | 43 | -11 | 6 | -7 | 16 | 25 | 40 | -18 | -7 | 15 | 24 | 19 | 3 | -35 |
| 12 | 36 | -3 | 29 | 10 | -18 | 29 | -1 | -17 | 15 | 10 | 30 | 100 | 21 | 14 | 17 | 49 | 12 | 51 | 27 | 6 | 44 | 34 | 24 | -11 | -13 | -14 | 5 | -9 | 50 | -16 | 45 | 47 | -23 | -29 | 38 | -18 |
| 13 | 43 | 11 | 23 | 27 | 12 | -16 | 18 | 14 | 7 | 12 | -9 | 21 | 100 | 16 | 2 | 13 | 1 | 3 | 21 | -9 | 20 | 30 | 31 | -2 | -10 | 6 | 0 | -30 | 5 | 29 | 41 | 4 | 3 | 15 | 16 | -22 |
| 14 | 64 | 44 | 41 | -4 | -3 | 41 | 1 | 16 | 31 | -17 | -20 | 14 | 16 | 100 | 5 | 55 | 41 | 26 | 30 | 20 | 55 | 35 | 14 | 48 | -42 | 39 | -12 | -15 | 45 | 18 | 43 | 51 | 2 | -15 | 11 | -5 |
| 15 | 28 | 33 | -9 | -24 | 26 | 8 | 3 | -33 | -22 | -9 | 30 | 17 | 2 | 5 | 100 | -13 | 26 | 24 | 23 | -8 | 23 | 41 | 23 | 33 | 6 | 40 | 9 | 46 | 49 | 26 | 2 | 8 | -9 | 24 | -9 | 21 |
| 16 | 35 | 8 | 39 | 5 | -2 | 41 | -14 | 12 | 45 | -29 | -18 | 49 | 13 | 55 | -13 | 100 | 31 | 40 | 23 | 18 | 65 | 24 | -8 | 1 | -61 | 2 | -27 | -30 | 31 | -22 | 57 | 73 | -34 | -41 | 24 | -9 |
| 17 | 46 | 52 | 37 | 6 | 0 | 25 | -12 | 6 | 13 | -11 | -2 | 12 | 1 | 41 | 26 | 31 | 100 | 28 | 10 | -9 | 17 | 13 | 15 | 21 | -30 | 16 | -31 | 17 | 44 | 15 | 35 | 31 | -21 | -10 | 37 | 19 |
| 18 | 28 | 26 | 19 | 13 | 2 | 35 | -9 | -7 | -9 | 2 | -5 | 51 | 3 | 26 | 24 | 40 | 28 | 100 | 12 | -7 | 39 | 20 | 14 | 2 | -11 | -2 | -23 | 4 | 35 | -2 | 45 | 34 | -18 | -41 | 17 | 20 |
| 19 | 39 | 17 | 35 | -3 | 7 | 11 | 21 | -5 | 25 | -9 | 7 | 27 | 21 | 30 | 23 | 23 | 10 | 12 | 100 | 44 | 40 | 16 | 27 | 27 | -33 | 39 | 33 | -7 | 29 | 12 | 20 | 17 | 12 | 30 | -24 | 20 |
| 20 | 11 | -7 | 25 | -5 | 30 | -14 | 23 | 16 | 34 | 11 | 16 | 6 | -9 | 20 | -8 | 18 | -9 | -7 | 44 | 100 | 26 | 16 | 1 | 19 | -27 | 53 | 43 | -23 | 33 | 11 | 1 | 8 | 25 | 30 | -25 | -20 |
| 21 | 50 | 6 | 28 | 31 | 20 | 40 | 2 | -17 | 20 | -15 | -7 | 44 | 20 | 55 | 23 | 65 | 17 | 39 | 40 | 26 | 100 | 50 | 5 | 28 | -44 | 39 | 2 | -25 | 37 | 13 | 41 | 64 | -29 | -4 | 12 | -13 |
| 22 | 45 | 16 | 7 | 3 | 23 | 18 | 10 | -30 | -10 | -4 | -1 | 34 | 30 | 35 | 41 | 24 | 13 | 20 | 16 | 16 | 50 | 100 | 6 | 9 | 5 | 36 | 2 | 20 | 41 | 18 | 47 | 19 | 2 | -2 | 13 | -20 |
| 23 | 30 | -6 | 30 | 14 | 26 | -16 | 36 | 9 | -12 | 52 | 43 | 24 | 31 | 14 | 23 | -8 | 15 | 14 | 27 | 1 | 5 | 6 | 100 | 19 | 4 | -6 | 11 | 1 | 32 | 18 | -4 | -5 | 23 | 27 | 12 | -15 |
| 24 | 45 | 62 | 9 | -7 | 42 | 27 | 26 | -3 | -3 | -13 | -11 | -11 | -2 | 48 | 33 | 1 | 21 | 2 | 27 | 19 | 28 | 9 | 19 | 100 | -4 | 60 | 10 | 1 | 38 | 52 | -18 | -4 | 14 | 43 | -31 | 22 |
| 25 | -23 | -2 | -36 | -11 | 16 | -5 | 17 | -20 | -66 | 25 | 6 | -13 | -10 | -42 | 6 | -61 | -30 | -11 | -33 | -27 | -44 | 5 | 4 | -4 | 100 | -29 | 17 | 11 | -32 | 17 | -49 | -62 | 16 | 12 | -27 | -6 |
| 26 | 42 | 41 | 7 | -9 | 41 | 11 | 14 | -5 | 27 | -22 | -7 | -14 | 6 | 39 | 40 | 2 | 16 | -2 | 39 | 53 | 39 | 36 | -6 | 60 | -29 | 100 | 18 | -2 | 43 | 46 | 11 | 10 | 12 | 41 | -18 | 5 |
| 27 | 5 | -26 | -6 | 1 | 26 | -19 | 22 | 12 | -17 | 34 | 16 | 5 | 0 | -12 | 9 | -27 | -31 | -23 | 33 | 43 | 2 | 2 | 11 | 10 | 17 | 18 | 100 | -9 | 7 | 10 | -27 | -24 | 10 | 44 | -27 | -21 |
| 28 | -25 | 18 | -24 | -5 | -6 | -1 | -16 | -25 | -30 | 15 | 25 | -9 | -30 | -15 | 46 | -30 | 17 | 4 | -7 | -23 | -25 | 20 | 1 | 1 | 11 | -2 | -9 | 100 | 23 | -5 | 2 | -17 | 20 | 4 | -5 | 20 |
| 29 | 48 | 27 | 30 | -17 | 10 | 19 | 13 | -16 | 25 | 9 | 40 | 50 | 5 | 45 | 49 | 31 | 44 | 35 | 29 | 33 | 37 | 41 | 32 | 38 | -32 | 43 | 7 | 23 | 100 | 15 | 37 | 48 | 5 | 10 | 12 | -15 |
| 30 | 39 | 33 | 27 | 16 | 46 | 12 | 14 | -9 | 0 | 5 | -18 | -16 | 29 | 18 | 26 | -22 | 15 | -2 | 12 | 11 | 13 | 18 | 18 | 52 | 17 | 46 | 10 | -5 | 15 | 100 | 9 | -27 | 17 | 52 | -1 | -2 |
| 31 | 43 | 12 | 38 | 14 | -19 | 14 | -23 | -3 | 46 | -5 | -7 | 45 | 41 | 43 | 2 | 57 | 35 | 45 | 20 | 1 | 41 | 47 | -4 | -18 | -49 | 11 | -27 | 2 | 37 | 9 | 100 | 53 | -14 | -28 | 47 | -8 |
| 32 | 32 | 0 | 35 | -4 | -27 | 20 | -38 | -5 | 56 | -17 | 15 | 47 | 4 | 51 | 8 | 73 | 31 | 34 | 17 | 8 | 64 | 19 | -5 | -4 | -62 | 10 | -24 | -17 | 48 | -27 | 53 | 100 | -33 | -37 | 32 | -23 |
| 33 | -7 | 5 | -12 | -27 | 16 | -20 | 16 | 8 | -2 | 16 | 24 | -23 | 3 | 2 | -9 | -34 | -21 | -18 | 12 | 25 | -29 | 2 | 23 | 14 | 16 | 12 | 10 | 20 | 5 | 17 | -14 | -33 | 100 | 41 | -17 | -16 |
| 34 | 0 | 6 | -16 | 0 | 54 | -17 | 29 | 4 | -5 | 12 | 19 | -29 | 15 | -15 | 24 | -41 | -10 | -41 | 30 | 30 | -4 | -2 | 27 | 43 | 12 | 41 | 44 | 4 | 10 | 52 | -28 | -37 | 41 | 100 | -33 | -1 |
| 35 | 20 | -4 | 36 | 19 | -34 | 9 | -24 | 11 | 20 | 12 | 3 | 38 | 16 | 11 | -9 | 24 | 37 | 17 | -24 | -25 | 12 | 13 | 12 | -31 | -27 | -18 | -27 | -5 | 12 | -1 | 47 | 32 | -17 | -33 | 100 | -31 |
| 36 | -5 | 35 | -27 | -11 | -1 | 27 | -10 | -30 | -9 | -38 | -35 | -18 | -22 | -5 | 21 | -9 | 19 | 20 | 20 | -20 | -13 | -20 | -15 | 22 | -6 | 5 | -21 | 20 | -15 | -2 | -8 | -23 | -16 | -1 | -31 | 100 |

Note, the correlations are formatted to omit the decimal point for space considerations. Thus: a correlation of "41" represents the value of "0.41".

Appendix D: Unrotated Factors: Five Factor Analysis

| Sorts | A | B | C | D | E | $h^2$ |
|---|---|---|---|---|---|---|
| **1** ***(ID: 9414)*** | 0.788 | 0.347 | 0.042 | 0.075 | -0.237 | 0.805 |
| **2** ***(ID: 9415)*** | 0.404 | 0.292 | -0.505 | -0.113 | -0.228 | 0.568 |
| **3** ***(ID: 9416)*** | 0.517 | 0.043 | 0.389 | -0.032 | -0.360 | 0.551 |
| **4** ***(ID: 9417)*** | 0.070 | -0.082 | 0.109 | 0.250 | -0.189 | 0.122 |
| **5** ***(ID: 9418)*** | 0.057 | 0.493 | -0.154 | 0.040 | 0.073 | 0.277 |
| **6** ***(ID: 9520)*** | 0.454 | -0.220 | -0.368 | 0.059 | 0.013 | 0.394 |
| **7** ***(ID: 9521)*** | -0.045 | 0.426 | 0.109 | 0.065 | -0.074 | 0.205 |
| **8** ***(ID: 9522)*** | -0.070 | 0.020 | 0.224 | -0.316 | -0.416 | 0.328 |
| **9** ***(ID: 9523)*** | 0.395 | -0.205 | 0.276 | -0.496 | 0.123 | 0.536 |
| **10** ***(ID: 9524)*** | -0.239 | 0.241 | 0.432 | 0.432 | -0.079 | 0.495 |
| **11** ***(ID: 9426)*** | -0.115 | 0.218 | 0.362 | 0.133 | 0.296 | 0.297 |
| **12** ***(ID: 9427)*** | 0.459 | -0.146 | 0.382 | 0.402 | 0.253 | 0.604 |
| **13** ***(ID: 9428)*** | 0.258 | 0.135 | 0.306 | 0.156 | -0.279 | 0.281 |
| **14** ***(ID: 9525)*** | 0.729 | 0.119 | 0.063 | -0.228 | -0.186 | 0.636 |
| **15** ***(ID: 9526)*** | 0.242 | 0.391 | -0.318 | 0.342 | 0.429 | 0.614 |
| **16** ***(ID: 9431)*** | 0.721 | -0.426 | 0.232 | -0.144 | 0.047 | 0.779 |
| **17** ***(ID: 9527)*** | 0.555 | 0.034 | -0.164 | 0.068 | -0.217 | 0.388 |
| **18** ***(ID: 9528)*** | 0.509 | -0.166 | -0.043 | 0.334 | 0.044 | 0.403 |
| **19** ***(ID: 9529)*** | 0.399 | 0.294 | 0.160 | -0.262 | 0.246 | 0.401 |
| **20** ***(ID: 9437)*** | 0.109 | 0.329 | 0.368 | -0.451 | 0.364 | 0.592 |
| **21** ***(ID: 9438)*** | 0.783 | -0.047 | 0.110 | 0.013 | 0.174 | 0.658 |
| **22** ***(ID: 9530)*** | 0.448 | 0.198 | 0.011 | 0.395 | 0.252 | 0.459 |
| **23** ***(ID: 9470)*** | 0.051 | 0.465 | 0.384 | 0.361 | -0.119 | 0.511 |
| **24** ***(ID: 9471)*** | 0.343 | 0.587 | -0.356 | -0.213 | -0.078 | 0.640 |
| **25** ***(ID: 9472)*** | -0.540 | 0.226 | -0.248 | 0.436 | -0.074 | 0.599 |
| **26** ***(ID: 9473)*** | 0.443 | 0.515 | -0.154 | -0.304 | 0.212 | 0.622 |
| **27** ***(ID: 9474)*** | -0.178 | 0.426 | 0.241 | -0.043 | 0.189 | 0.309 |
| **28** ***(ID: 9475)*** | -0.105 | 0.104 | -0.285 | 0.262 | 0.272 | 0.246 |
| **29** ***(ID: 9476)*** | 0.568 | 0.349 | 0.129 | 0.128 | 0.340 | 0.593 |
| **30** ***(ID: 9477)*** | 0.241 | 0.540 | -0.222 | 0.052 | -0.234 | 0.457 |
| **31** ***(ID: 9478)*** | 0.666 | -0.227 | 0.249 | 0.138 | 0.010 | 0.576 |
| **32** ***(ID: 9479)*** | 0.636 | -0.387 | 0.299 | -0.080 | 0.211 | 0.694 |
| **33** ***(ID: 9458)*** | -0.236 | 0.478 | 0.088 | -0.107 | 0.065 | 0.308 |
| **34** ***(ID: 9459)*** | -0.087 | 0.720 | -0.054 | -0.123 | 0.099 | 0.553 |
| **35** ***(ID: 9460)*** | 0.244 | -0.280 | 0.261 | 0.321 | -0.246 | 0.370 |
| **36** ***(ID: 9461)*** | 0.041 | -0.065 | -0.699 | -0.111 | 0.077 | 0.513 |
| **Eigenvalues** | 6.442 | 4.002 | 2.919 | 2.278 | 1.742 | n/a |
| **% Total Variance** | 17.895 | 11.116 | 8.108 | 6.328 | 4.838 | 48.284 |
| **% Total Variance** | 17.895 | 11.116 | 8.108 | 6.328 | 4.838 | 5.392 |

Appendix E: Responses to Online Q-sort Question

Please share any other thoughts you may have about using gamification to engage users to donate to charity.

| SortID | Question 2 responses |
|---|---|
| 9421/9522 | n/a |
| 9433/9528 | I think it's an awesome idea because there are a lot of gamers that would most likely be willing to give to charity if they would be able to see who was giving and how much and make it a game kind of. |
| 9439/9530 | I would love to play against friends in a situation like this. |
| 9452/9475 | n/a |
| 9430/9526 | n/a |
| 9414 | n/a |
| 9415 | n/a |
| 9432/9527 | It was a good way to keep things organized and keep them managed from whats the most important to the least important |
| 9447/9471 | Everything was good |
| 9450/9473 | Sounds like a great idea if correctly implemented. |
| 9454/9477 | n/a |
| 9459 | n/a |
| 9418 | n/a |
| 9419/9520 | n/a |
| 9420/9521 | I think if there was a way to connect gamers with a charity that has a connection to that game it would help. Like the game "Cooing fever"; if there was a charity that connected with it that helped raise money for the fight against child hunger, I believe it would have a great impact. |
| 9424/9524 | This is highly effective in my generation when there is public competition against social groups. examples: clubs, greek life, class levels... |
| 9426 | n/a |
| 9437 | n/a |
| 9451/9474 | n/a |
| 9458 | Seems like a great idea. |
| 9422/9523 | n/a |
| 9431 | n/a |
| 9436/9529 | n/a |
| 9438 | I am not a big gamer, so for me it is not the best way for charities to get me to donate, but I am sure for a ton of millennials this is very effective. |
| 9449/9472 | I think it could be a powerful tool. People spend a lot of money for in app purchases |

| | |
|---|---|
| | just for the satisfaction of completing a game. It's a great idea! |
| 9453/9476 | n/a |
| 9455/9478 | n/a |
| 9456/9479 | n/a |
| 9429/9525 | I feel it may defeat the personal gains one should feel when giving to charity but can definitely see how it would attract some people to give more. |
| 9416 | n/a |
| 9417 | Use different types of games to reach a larger audience. |
| 9427 | n/a |
| 9428 | Knowing that they will be helping people less fortunate |
| 9446/9470 | I think this survey is very good in causing me to want to help people. |
| 9460 | I think it would be very useful because kids these days all want to be a part of something bigger. |
| 9464 | believe there are many factors that could impact the behaviors of donating to charity. Maybe we can add more statements? |

Appendix F: Q-sort Statement Gamification Components

| # | Component | Statement |
|---|---|---|
| 1 | network | knowing people in my social network gave to the charity |
| 2 | status | receiving special status for the number of people I refer to the charity |
| 3 | access | getting special access to the charity's programs |
| 4 | network | knowing people outside my social network gave to the charity |
| 5 | status | receiving special status in the game for the $s I contributed |
| 6 | access | getting special access to the charity's facilities |
| 7 | badges | accumulating badges that designate my number of followers for the charity |
| 8 | network | knowing the amount given by others in my social network |
| 9 | network | engaging my social network for charity |
| 10 | access | getting special access to participate in the charity's board meeting |
| 11 | leaderboard | seeing my name in a giving leader board |
| 12 | leaderboard | seeing the names of people in my social network in a giving leader board |
| 13 | badges | accumulating badges that designate $s raised by my network for the charity |
| 14 | network | competing against individuals within my social network |
| 15 | gifts | receiving a $5 gift card or other gift for donating |
| 16 | gamification | knowing that the charity's staff is active in the game |
| 17 | badges | accumulating badges that designate a giving level |
| 18 | points | getting points that allow my social network to increase our level |
| 19 | status | getting special status for the $s raised through my social network |
| 20 | challenge | participating in a fundraising challenge or quest |
| 21 | points | getting points that allow me to increase my level |
| 22 | gifts | receiving a free invitation to host a table at a charity event |
| 23 | network | competing against another's social network |
| 24 | leaderboard | seeing the name of people in my social network in a giving leader board |
| 25 | leaderboard | seeing my name in a giving leader board |
| 26 | leaderboard | seeing the names of people outside my social network in a giving leader board |
| 27 | network | knowing the amount donated by others outside my social network |
| 28 | challenge | leading a fundraising challenge or quest |
| 29 | knowledge | learning more about the charity |
| 30 | access | getting special access to participate in the charity's staff meetings |

| | | |
|---|---|---|
| 31 | gamification | using online games to engage donors |
| 32 | donating | donating to charity |