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The Game of Life: Designing a Gamification System to Increase Current Volunteer Participation and Retention in Volunteer-based Nonprofit Organizations

Ya Chiang Fu

Since ancient times (McGonigal, 2010), games have been powerful tools in motivating human behaviors. Today, games have become integrated with social media as a new tool to engage user behavior. This phenomenon, dubbed “gamification,” has recently been widely practiced by for-profit businesses in the last two years, but not by nonprofit organizations (NPO). The purpose of this paper is to explore the feasibility of applying gamification to non-profit organizations, particularly volunteer programs.

With the recent and growing competitiveness of the nonprofit sector, volunteer retention has become arguably one of the most vital aspects of managing a NPO, where nurturing volunteer loyalty and minimizing volunteer turnover are primary objectives (Finkelstein, 2008). For instance, Mitchell and Taylor (2004) argue that it costs a NPO at least five times more to recruit a new volunteer than to cultivate greater relationship with existing ones. As such, retention could potentially lower operating costs for nonprofit organizations and increase their sustainability. In addition, other studies (Safrit & Merrill, 2000) have shown that volunteers are demanding more entertaining, meaningful, and/or trendy issues. Given the recent popularization and manifestation of gamification through the use of the internet, the significance of this study is to demonstrate the potential extension of possibilities for improving the nonprofit sector with the use gamification systems.

As such, this study will investigate the usage of gamification in nonprofits to drive volunteer motivations. The study will present research on the potential processes nonprofit

organizations can use to craft a prototype gamification outline that is applicable to designing a gamified volunteer program.

This study uses three key constructs: gamification, volunteers & nonprofit organizations, and game design & theory. First, gamification is the use of game mechanics and dynamics to motivate people (Zichermann, 2011). Game mechanics refer to the methods games use (i.e. leaderboards, levels, achievements...etc.) to motivate players and game dynamics are the resulting desire and motivations derived from the gameplay (i.e. reward, status, self-expression, altruism). The study's second key construct, current volunteers, are defined as people who have already freely and willingly provided their time and effort for a nonprofit organization longer than six months (Briggs, Landry, & Wood, 2007). The third key construct, nonprofit organizations—namely 501(c)(3) nonprofit organizations (NPOs) (Haddow & Bullock, 2003)—provide the setting upon which the applicability of gamification in volunteer programs is explored. Indeed, there are numerous NPOs in various fields (e.g. health, education, animal care, environment...etc). Nevertheless, the rationale for viewing all NPOs as one coherent group is due to the fact that most studies found regarding NPOs provide insights to this already-broadened group of “nonprofit organizations” and refers to them generally as well. For these reasons, this study will generally identify nonprofit organizations as a valid and manageable key construct.

Literature Review

Volunteers as Customers: A Marketing-oriented Paradigm

One of the ways to frame and evaluate volunteers is through the *4 P marketing mix* of product, price, place, and promotion. As suggested by Mitchell and Taylor (2004), “the ‘product’ is the volunteer experience; ‘price’ is the monetary and non-monetary costs of volunteering;

‘place’ refers to ease of donation in terms of time and effort; and ‘promotion’ refers to the communications between the volunteer and organization” (73). This provides NPOs with the proper perspective to develop and manage satisfying volunteer tasks, minimize perceived volunteer costs and maximize volunteer benefits, provide volunteer-friendly processes, promote meaningful volunteer experiences, and monitor and grow the existing relationship with returning volunteers in the face of rising competition (Karl, Peluchette, & Hall, 2008). Hence, it is “critical [for NPOs] to identify and understand their ‘customer’ needs or motives for volunteering” (72). Moreover, according to Bussell and Forbes (2002), it has been suggested that what attracts volunteers to an organization is not necessarily what sustains them once they are “on board.” Therefore this paper has selected to use motives as a core basis for developing gamification systems for volunteers.

The Functional Approach to Volunteer Retention

Within the marketing-oriented paradigm, a functional approach to interpret and comprehend volunteer motivations is very useful. The premise of the functional approach—as defined by Finkelstein (2008) and exemplified by other researchers (Clary & Snyder, 1999; Omoto & Snyder, 1995; Omoto & Snyder, 2002)—posits that individuals will continue to volunteer so long as their “needs or motives be fulfilled by the activity of volunteering” (10). In other words, this approach implicates that motive fulfillment is the essential element to understanding volunteer behavior. In turn, this approach fits well with the marketing-oriented paradigm supports ways to further understand volunteers from the perspective of the beneficiary organization. According to a number of sources (Skoglund, 2006; Finkelstein, 2008; Karl, Peluchette, & Hall, 2008) the functional approach uses volunteer satisfaction (the positive experience) as the key component in explaining the volunteer process. In this, volunteer

satisfaction functions as a consequence of motive fulfillment, which encourages the continuation of volunteering.

A Diverse and Accrued Understanding of Volunteers Volunteer

According to Shields (2009), there is a consensus among volunteerism literature that “volunteering is motivated by multiple factors and to some degree by self-interest” (142). Therefore, it is important to also consider working categorizations of volunteer motivations. Thus, in conjunction with the functional approach, it is appropriate to identify varying models of motivations of volunteering. Consequently, these motivational models will allow me to aggregate and identify the different segments of volunteers and cater a gamified volunteer program to engage these various types of motivations.

The Six Motives of Volunteering

In the volunteer motivation literature, Clary, Snyder, Ridge, Copeland, Stukas, and Haugen & Miene (1998) have identified six motives for volunteering that became a prevalent model used by other volunteer motivation studies (Finkelstein, 2008; Karl, Peluchette, & Hall 2008; Briggs, Landry, & Wood, 2007; Shields, 2009; Bussell & Forbes, 2006) and has been found to be relatively comprehensive relative to other volunteer motivation studies (Wang ,2003). The six volunteer motives (values, understanding, social, career, protective, enhancement) represent (in respective order) “the values related to altruistic and humanitarian concern for others, the understanding acquired from new learning experiences or using skills that might otherwise go unused, the strengthening of social relationships, the gaining of career-related experience, the reduction of negative feelings about oneself or address personal problems, and enhancement via psychological growth and development” (10). Regarding this model, Davis, Hall, Meyer (2003) argued that it is the “fulfillment of motives, rather than their degree of

importance, that sustains volunteerism” (10), which is aligned with the functional approach to volunteer retention. Therefore, it is appropriate to consider this set of volunteering motives and aligning them with the proper game mechanics to engage them.

Callow’s Framework

Another approach to evaluating motivation that further builds on the six motives model (Clary et al.’s, 1998) and other volunteering motivations is Callow’s (2004) Framework, which focus on segmenting volunteers with four simple but distinct promotional appeals. In particular, this framework is suitable for identifying motivations across diverse demographic and international segments and even among various age groups of volunteers (Callow et al., 2004). The framework itself uses “humanitarian high/low” and “social high/low” dimensions to form a two-by-two matrix to profile motivations. These motives were then further rephrased by Beerli and Diaz & Martin (2004) as:

- Helping others (high humanitarian/high social)
- Social skills (low humanitarian/high social)
- Personal development skills (high humanitarian/low social)
- Employment-related (low humanitarian/low social)

Based on Shield’s (2009) findings from testing this framework on young adults, results have indicated that all four of these segmentations were well-represented among young adults. Hence, the four segmentations identified provide a working basis to target and engage young and older volunteers with gamification.

The Role-Identities of Volunteers

Throughout the volunteerism literature, there have been multiple mentions (Briggs, Landry, & Wood, 2007; Bussel & Forbes, 2006) of using role-identity to assess volunteer motivations. Grube & Piliavin (2000) define “role identity” (Skoglund, 218) as one’s concept of

the self that corresponds to the social roles held by the individual. In this, Skoglund (2006) suggests that a volunteer should perceive his/her role as important to the success of the organization in order to foster commitment to the volunteer role and contributes to the positive (satisfied) experience. Thus it is important to preemptively understand the volunteer's desired role when volunteering in an organization. According to Finkelstein, Penner, and Brannick (2005), role identity theory “enables the differentiation between the levels of involvement among volunteers” (414). In this, the same study found that four of the six volunteer motives identified by Clary et al. (1998)—particularly values, understanding, protective, and enhancement—are positively correlated to volunteer identity. Hence, with this understanding, it is possible to align a gamification design that fits various volunteer role identities.

The Volunteer Life Cycle

Lastly, a very useful model used to monitor and track volunteer motivations at varying stages of the volunteering process is the volunteer life cycle proposed by Bussell and Forbes

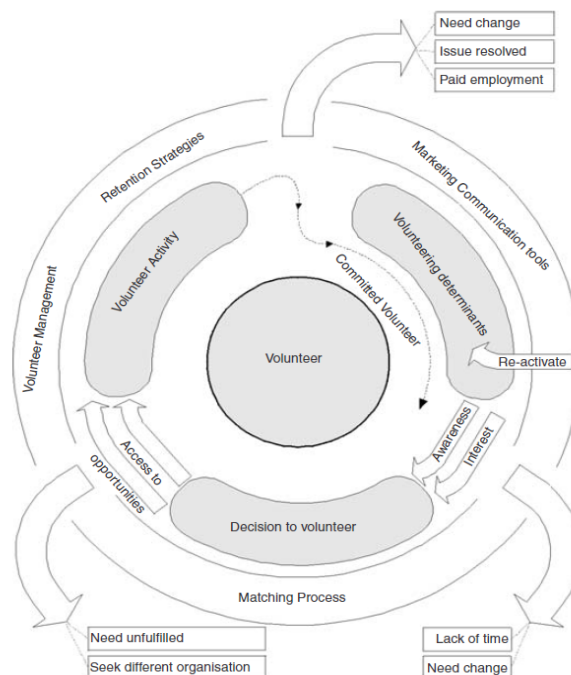


Figure 1. Volunteer Life Cycle,
(Image Source: Bussell & Forbes, 2006)

(2006). They suggest that there are three stages in the volunteer life cycle (in consecutive order): volunteering determinants, decision to volunteer, volunteer activity. At the first stage, the individual has not yet become a volunteer and the organization focuses on matching the individual with the prospects of volunteering. In the second stage, the volunteer gains his/her initial experience and compares that with expectations formed from the organization's promises from promotions before he/she decides to volunteer. In the third stage, the volunteer either stays based on still unfulfilled/ongoing needs or quits volunteering because the need to volunteer has been terminally or poorly satisfied. This model provides a means of identifying the stages volunteers undergo and the measures organizations can take to minimize turnover during that stage.

Game Design Architecture and Motivations of Game Users

Much of what has been expressed in previous literature regarding volunteer motives can be used to speculate the potential of a game's functionality in relation to motivating behavior. From a game designer's perspective, a game is viewed as the "system which players engage in artificial conflict, characterized by rules that result in a quantifiable outcome" (Salen & Zimmerman, 2003) (153, Anderson). Given this kind of definition, it is possible to assert that "games exist all around us, whether we define them as such" (154). Therefore, with this open perspective of what a game is, it is important to identify useful models of player motivations to understand the link between player behaviors and game design in order to link gamification and volunteer motivations.

Immersion and Flow of Gameplay

As defined by Bartle (2003), immersion is the feeling a player has when inside a virtual world. Much of this is based on Lombard's (1997) concept of *presence*—"the illusion that a (computer) mediated experience is not perceived as the mediated experience" (Bartle, 8). Thus, this sort of virtual presence allows players to suspend the *physical* disconnect between what is shown on a digital screen and the player's sense of his/her usage of the computer. Another concept proposed by Bartle (2003) that is important to understanding immersion is a widely-used (Zichermann, 2010; Choi & Kim, 2004; Anderson, 2011) concept called "flow" (Csikzentmihalyi, 1990). The basic premise behind the flow model is that "people can enter 'states' in which they are so involved in an activity that nothing else seems to matter and the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of

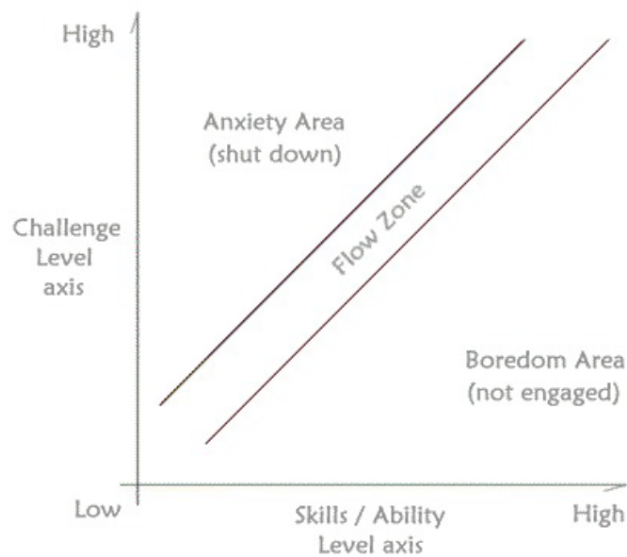


Figure 2. Flow Model,
(Image Source: Csikzentmihalyi, 1990)

doing it" (Anderson, 162). Hence, it is critical that game designers think about motivating and engaging their players to reach this state of flow during gameplay without boring or discouraging

the player. Hence, this model serves as a fundamental and guiding characteristic in game design that must be taken into consideration when developing a gamified volunteer program.

The Structure Model for Design Features and Customer Loyalty

In order to further understand player motivations, the structural model proposed and tested by Choi & Kim (2004) presents a series of relationships from the perspective of the game

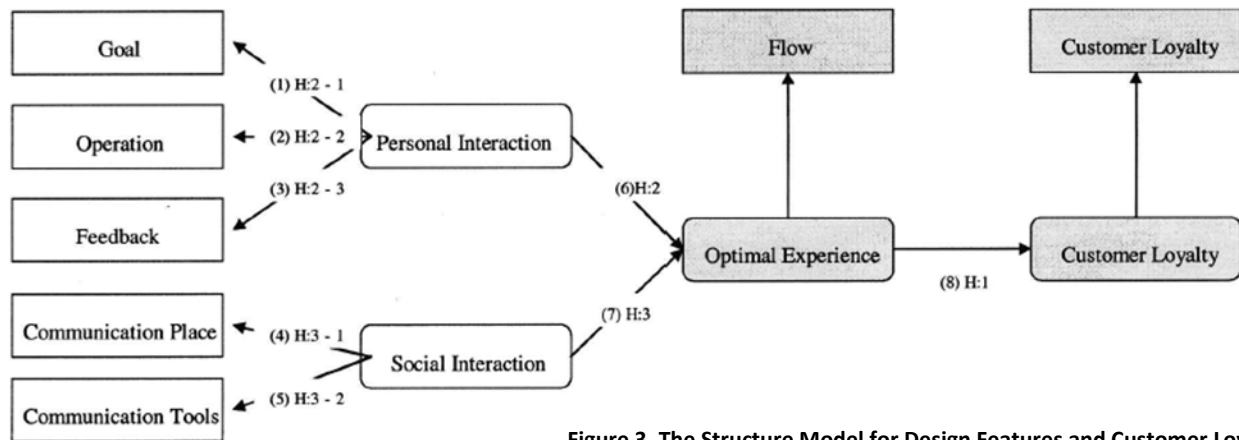


Figure 3. The Structure Model for Design Features and Customer Loyalty, (Image Source: Csikzentmihalyi, 1990)

designer. Based on the concept of problem-solving theory (Zhang, 1997), the features of a game can be organized into five categories: goals, operators, feedback, communication place, and communication tools. In this, Crawford (1982) defines a *goal* as “the specific target that each game participant wants to achieve during the game” (13). Secondly, *operators* are defined by Zhang (1997) as “an instrument of problem solving, given to players to accomplish goals” (e.g. items, virtual currency) (13). Third, Crawford (1982) defines *feedback* as the “appropriate response from the game system in response to the player’s handling of an operator” (14). Fourth, Harrison & Dourish (1996) refer to *communication place* as “a meeting place in the game where players can socialize” (14). Fifth, the *communications tool* refers to the “game function that enables players to relay their opinions among themselves” (14). This model provides a

framework with which one can structure and plan a prototype game and focus on the key categories that have more positive correlations to increasing customer loyalty or volunteer retention.

The Primary Components of Player Motivation

In an empirical study (Yee, 2006) based on Bartle's (1996) Player Types (discussed later), 3,000 MMORPG (massively multiplayer online role-playing game) player surveys were evaluated and it was discovered that there are "grouped" sets of defined components to gamer motivations. Based on factor analyses, Yee (2006) was able to reveal three main player motivation components (Achievement, Social, and Immersion). Within each of these motivation components are also subcomponents that link to player motivations. The components and subcomponents are defined as:

- Achievement Component
 - Advancement—The desire to gain power, progress rapidly, and accumulate in-game symbols of wealth or status
 - Mechanics—Having an interest in analyzing the underlying rules and system in order to optimize character performance
 - Competition—The desire to challenge and compete with others
- Social Component
 - Socializing—Having an interest in helping and chatting with other players
 - Relationship—The desire to form long-term meaningful relationships with others
 - Teamwork—Deriving satisfaction from being part of a group effort
- Immersion Component
 - Discovery—Finding and knowing things that most other players don't know about
 - Role-Playing—Creating a persona with a background story and interacting with other players to create an improvised story
 - Customization—Having an interest in customizing the appearance of their character
 - Escapism—Using online environment to avoid thinking about real life problems

Here, it is possible to juxtapose Yee's (2006) proposed model with Clary et al.'s (1998) six motives for volunteering (altruistic, understanding, enhancement, career, protective). Thus, this

framework offers a defined and empirically supported list of player motivations that would be applicable in linking volunteer motivations and game user motivations.

Bartle's Player Types

Within the literature of game motivations, Bartle's (1996) Player Types is a widely-known taxonomy which classifies player motivations from a game designer's point of view and offers a basic and appropriate starting point to understand the various kinds of player motivations. In this, there are generally four types of players.

In short, Achievers are motivated by acting upon the game world; Explorers enjoy interacting with the world; Socializers enjoy interacting with other players; Killers are motivated by acting upon players. From this, it is possible to evaluate player's motivations based on their two choices of acting or interacting with player(s) or world(s). Moreover, if we frame this player type model in relation to Callow's Framework (2004), the socializer, explorer, and achiever player types have analogous qualities that relate volunteer segment and player type motives. For instance, *socializers* and "high/low social/humanitarian volunteer segments (social skills)" have similar motives of socializing and establishing relationships with other people. *Achievers* and "high/low humanitarian/social volunteer segment (employment-related)" have similar motives of advancement. Since *Explorers* are players that mainly interact with the world and not its community and has a motive to personally gain an understanding of the game world, the "low/low humanitarian/social volunteer segment (personal development skills)" matches the profile of the *Explorer* player type. The *Killer* player type, however, does not fit with the Callow's Framework and thus is irrelevant to understanding volunteer motives. Hence, the *explorer*, *socializer* and *achiever* player types can be used to categorize and relate volunteer motives in the following table:

Player type	Player type Traits	Callow's Framework Segment	Segment Focus	Segment Traits
Achievers	Desire Advancement	High Humanitarian/ Low Social	Employment-related	Seek Advancement
Socializers	Desire Social Relationships	Low Humanitarian/ High Social	Social skills, making friends	Seek Social Interactions
Explorers	Desire World Environment Understanding	Low Humanitarian/ Low Social	Personal development	Seek New Understanding

Figure 4. Bartle's Player Types & Callow's Framework
(Image Source: Bartle, 1996; Callow, 2004)

The Role-Identity of the Player

Aside from suggesting the player types model, Bartle (2003) posits that virtual world play “affirms a player’s self-identity through role-playing” (9). By virtual gaming definitions, role-playing (Chan & Vorderer, 2006) refers to the act of “interacting with the gaming world and other players by the use of avatars, customizable agents.” For example, a study done by Companion & Sambrook (2008) on online players have found that a player’s choice of character class (e.g. wizard, archer, warrior,...etc) is positively correlated with gender-based identities. Moreover, Bartle (2003) explains that as the actor (player) comes to understand the character in use, the actor gains insight into their own situation. According to Malone (1981) and Malone & Lepper’s (1987) studies in game design strategies, there are five primary intrinsic motivations to the role-playing gameplay: choice, control, collaboration, challenge, and achievement. Since this model of role-playing motivation can essentially foster a role identity through a player’s deepened understanding of a game character vis-à-vis the player’s self-identity over time (Goetz, 1995), it is possible to align this concept with the role identity of volunteers, where “continued participation” (Piliavin, Grube, & Callero, 2002, p. 472) is “internalized and adopted as a component of self.” In turn, the intrinsic motivations of role-playing can be related to the role

identity theory of volunteers. Thus, given this line of reasoning, it can be suggested that role-playing functions as a form of player motivation that should be taken into account when designing a game.

The Hero's Journey and Virtual World

In a number of game design literature (Bartle, 2003; Dickey, 2006), the narrative structure model of “The Hero's Journey” introduced in Campbell's (1949) *The Hero with a Thousand Faces* provides an insightful blueprint for understanding the motivations behind the player when he/she progresses in a game. Here, Campbell (1949) analyzed a vast array of popular myths from distinct cultures (e.g. *Epic Tales of Gilgamesh*, Homer's *Odyssey*, Dante's *Inferno*) and found that there are key narrative patterns between each myth. Based on this finding, Campbell (1949) suggests that this convergence in narrative structure is due to the fundamental human need to explain the same “social, worldly, and other-worldly concepts that trouble each and every one of us.” Moreover, as pointed out in Bartle's (2003) analysis of Campbell's (1949) heroic journey structure, “unlike other forms of fiction (e.g. books, movies, TV shows), the player of a virtual world can actually ‘embark’ (with the ability to control and choose the way a game plays out) on a hero's journey—not as a *character*, but as *the hero*.” Therefore, the user assumes more responsibility for the consequences of the choices he/she makes in a game context. In this, Bartle's (2003) model of a player's journey identifies three main steps with sub-steps, in consecutive order: departure, initiation, and return. However, as noted by Bartle (2003), the hero's journey should not be treated as a perfect map of every player's entire experience of a game. Steps most pertinent to this study in terms of its analogous properties to Bussell and Forbes' (2006) volunteer life cycle are:

- For the departure step, there are three sub-steps: *Call to Adventure*, *Supernatural Aid*, and *The Belly of the Whale*.
- For the initiation step, there are two sub-steps: *Road of Trials* and *Atonement with the Father*.
- For the return step, there are two sub-steps: *Refusal of Return* and *Master of the two worlds*

By understanding these steps of a hero's journey in relation with the stages of the volunteer life cycle, it is possible to assess a player's motivations at each juncture of progress in a game. For instance, if a current volunteer is contemplating whether he/she desires to continue volunteering (reenters the first step of "volunteering determinants" to seek the needed motivation to "reactivate" the "decision to volunteer"), current volunteers may be handed a pamphlet (the "call to adventure") that generates the required "awareness and interest" to create an online profile character with the volunteer organization and begin collecting points by doing certain tasks that will help volunteers re-volunteer. During this process, a volunteer could be helped by a long-standing volunteer staff ("supernatural aid") who guides them towards volunteering again. If the volunteer succeeds in journeying past the "departure" stage, the creation of a profile, interaction with a volunteer staff, and the pamphlet could effectively convince the volunteer to continue his/her volunteering behavior. In this case, the volunteer may then be motivated enough to reenter the "volunteer activity" (step three of the volunteer life cycle).

The Gamification Approach

Popularized in 2010, gamification is still a fairly novel and rapidly emerging approach (Peters, 2011; Grove, 2011). In fact, a recent 2011 report by information technology research company Gartner, Inc. predicted that by 2015, more than 50% of organizations will gamify their innovation processes. The report also concludes that by 2014, more than 70% of Global 2000 organizations will have at least one gamified application. As such, given gamification's changing

and seemingly unclear situation, there is a dearth of academic or scholarly articles on the topic. However, there is a surplus of press articles that discusses the applications of gamification. Consequently, in the following portion of the literature review, examples and a discussion of gamification's application in organization settings will be presented.

The Evolution of Loyalty & Engagement Programs and the Advent of Gamification

As claimed by a number of gamification and social media practitioners (Grove, 2011; Zichermann et al., 2010), gamification is not exactly a “new idea.” Gabe Zichermann, the author of *Gamification by Design* (2011), chair of the *NYC Gamification Summit* (Fall 2011), and a leader in the gamification movement, describes the growing presence of gamification by using the progression of loyalty and engagement models. In this, he discusses four models of loyalty and engagement that have changed over time: tangible goods (e.g. buy ten get one free), cash incentives (e.g. earn and collect stamps via purchases and redeem free things), loyalty systems (e.g. status-oriented frequent flyer programs), and virtual rewards (e.g. earn virtual currency/credits for purchases). The key here is that the focus of rewards and required action to yield those rewards have shifted from a payment-to-products & services cycle into one that motivates payment to yield virtual goods and statuses instead. Thus, “virtual goods and statuses” represent the core offering of gamification to its engaged users. Hence, gamification has a strong potential to provide nonprofit organizations the means with which to drive customer (volunteer) engagement and customer (volunteer) retention.

Motivation: A Sense of Progress

One of the fundamental motivations behind gamification is the experienced “sense of progress” (Peters, 2011; Kleinberg, 2011; Kirk, 2010). The reason why game mechanics work is because people enjoy the thought of improving their perceived situations, even at the workplace.



Figure 5. Diary Analyses of Employee Motivations
(Image Source: Amabile & Kramer, 2010)

One example of this is a Harvard Business Journal diary analysis study (Amabile & Kramer, 2010) which found that, of the other factors of motivation (instrumental support, interpersonal support, collaboration, important work), the most significant factor claims to be progress. Thus this motivation provides the groundwork and pathways to understand one of the core functions of gamification.

Commonly Used Game Mechanics

Currently, there are various sets of working game mechanics models which work well, given the proper contexts. Since most of the gamification happens in the for-profit sector, a general model proposed by Zichermann (2011) and another by Paharia (2010) based on cases of

success in business and experimental applications will be presented. In this, Zichermann (2011) identifies and defines five commonly used game mechanics (See Appendix A).

The other similar and popular model of game mechanics in the practice of gamification is Bunchball's (2010) Game Mechanics/Human Desires Matrix. Similar to the model Zichermann (2011) describes, this matrix model has four game mechanics that are identical (points, levels, leaderboards, challenges). The Game Mechanics/Human Desires Matrix introduces two new

Game Mechanics	Human Desires					
	Reward	Status	Achievement	Self Expression	Competition	Altruism
Points	●	●	●		●	●
Levels		●	●		●	
Challenges	●	●	●	●	●	●
Virtual Goods	●	●	●	●	●	
Leaderboards		●	●		●	●
Gifts & Charity		●	●		●	●

illustrates the interaction of basic human desires and game play. The green dots signify the primary desire a particular game mechanic fulfills, and the blue dots show the other areas that it affects.

Figure 6. Game Mechanics/Human Desires Matrix
(Image Source: Bunchball, Inc., 2010)

dimensions: Gifting & Charity and Virtual goods. According to Bunchball's matrix model, game mechanics are capable of motivating various types of "human desires." However, each game mechanic has its particular effectiveness in motivating certain human desires. For instance, points are used to motivate audiences with a strong desire for rewards. Hence, with this set of popular game mechanics, nonprofit organizations can potentially use it as a starting point to

select the proper game mechanic composition that will function as a system to engage targeted volunteers based on their motivations.

A Guideline to Successfully Gamify Experiences

As indicated by Adam Kleinberg (2011), a co-founder and CEO of Traction (an interactive ad agency) who is well-versed in gamification application, there are five general considerations that gamification practitioners can use as a guiding to creating a successful gamification program:

1. *“Identify and define an objective”*—given the objective, you can assess user behaviors
2. *“Engineer a path to your goals”*—identify and select behaviors to elicit from target users, ranging from detailed behavior to general behavior goals
3. *“Provide rewards”* —providing incentives that are aligned with the core of the organization goals and the interests of the user
4. *“Take a holistic view”*—avoid making a system that can be “gamed” by users. In other words, leave no room for user exploitation.
5. *“Make it fun”*—make a game that is inherently unique, fun, and centered around the organization objectives

Hence, Kleinberg’s (2011) five gamification considerations will provide a final criterion for TUVAC’s mock game design outline.

Effectiveness of Gamification: The Measure of Customer Engagement

As attested by Zichermann (2011) and Pineda & Paraskevas (2005), customer engagement can be measured in five ways:

- Recency (the average time period between one activity and the next)
- Frequency (the amount of times an activity is participated in a given time period)
- Duration (the length in time of the participation of an activity)
- Virality (the rate at which an activity propagates from one user to other users)
- Ratings (the customer rating or review of the product)

This model of measuring customer engagement provides the gamified volunteer program with a means of benchmarking the effectiveness of the program itself.

Method

There were three phases used in completing this study. The first phase consisted of research, where information on volunteer motivations & NPO, game design & player motivations, and gamification were gathered. Volunteer motivations & NPO research provided the knowledge foundation to construct an argument to validate the study and gather concepts to better investigate the nonprofit context and the volunteer group as a segment. Game design & player motivations research allowed this study to establish a link between gamification and motivating volunteers. Lastly, gamification research offered information and supporting examples of gamification that distinguish their functions for organizations. Moreover, gamification research helped determine the guidelines and benchmarks necessary to create, execute, and review a gamified program.

In the second phase, brainstorming, a functional approach and marketing paradigm was used to map out the research gathered on volunteer motives, game design, and gamification. As a result of this process a composite list of the concepts, theories, frameworks, models, criteria, and suggestions is formulated. During this phase, the research is connected and aligned to support the argument that gamification can potentially drive volunteer participation and retention.

The third phase consisted of creating a prototype gamification game design document. As such, the study developed a mock gamified volunteer program for Trinity University's on-campus humanitarian NPO called TUVAC (Trinity University Volunteer Action Community). During this phase, the study assessed the profile of TUVAC in regards to the various volunteer management characteristics identified by Hager & Brudney (2004). In this, the study used the following traits to profile TUVAC:

- Size (based on periodic expenditures)
- Level of volunteer involvement (number of volunteers)
- Predominant role of volunteers (direct or behind-the-scenes tasks)
- Beneficiary industry (e.g. education, arts & culture, health)

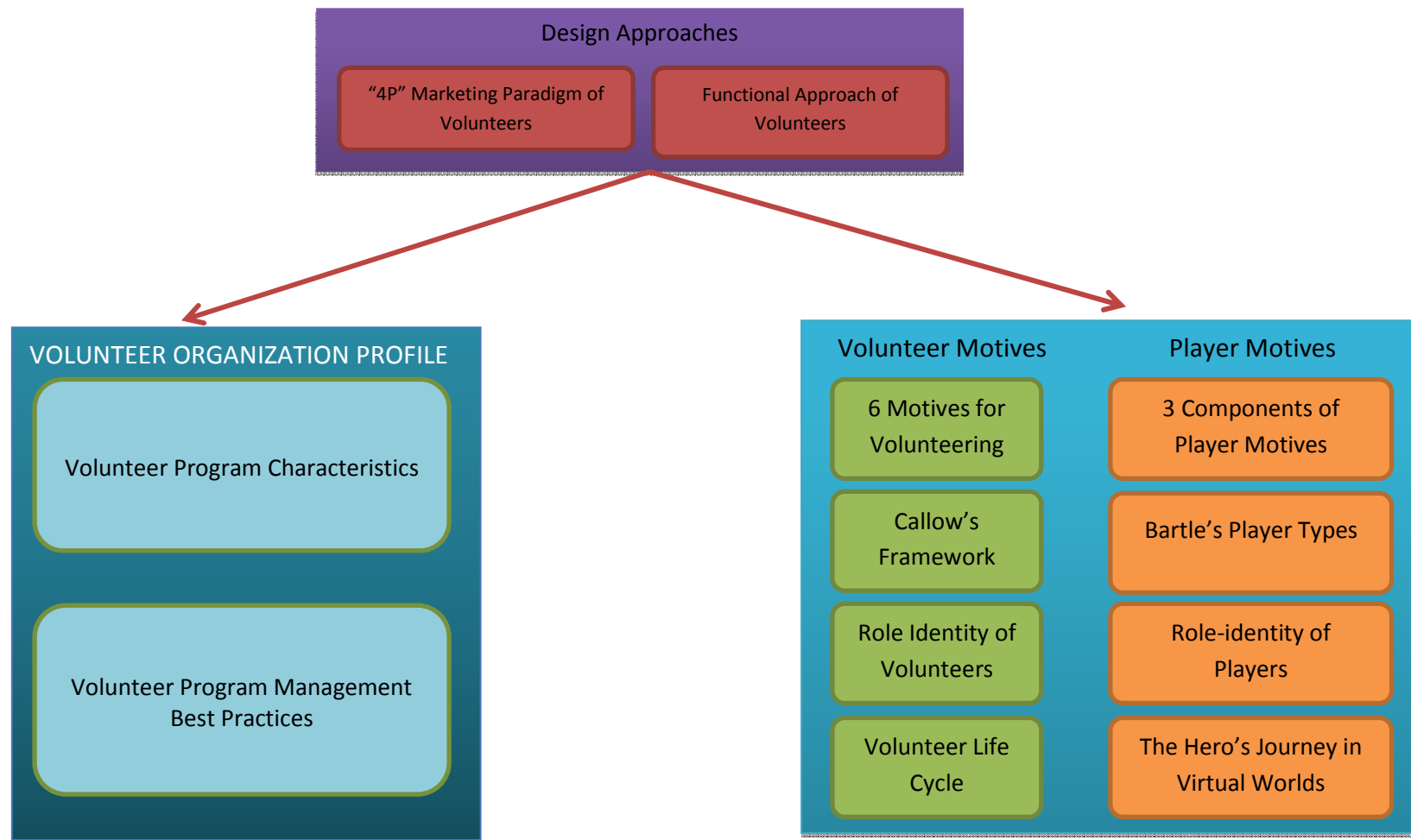
utilizing recommended best practices of volunteer management (Brudney, 1999; Brudney & Kellough, 2000; Grossman & Furano, 1999; Hager & Brudney, 2004) in conjunction with the composite list developed in “phase two” provide a guide and outline to creating a gamified volunteer program for TUVAC (Trinity University Volunteer Action Community). Here, studies (Brudney, 1999) have shown that best practice recommendations generally lead to higher volunteer program effectiveness:

- Written policies to govern volunteer programs
- Orientation of volunteers
- Basic and on-going training of volunteers
- Empowerment of volunteers to manage other volunteers
- Recognition activities
- Evaluation of volunteers
- Training for paid staff to work with volunteers
- Sufficient resources for volunteer programs

Overall, “phase three” (produce mock gamified volunteer program) addressed the development aspect of designing a gamification volunteer program and “phase one and two” (research and brainstorm) allowed this study to draw insights and address the study’s main questions and concerns.

Step 1:

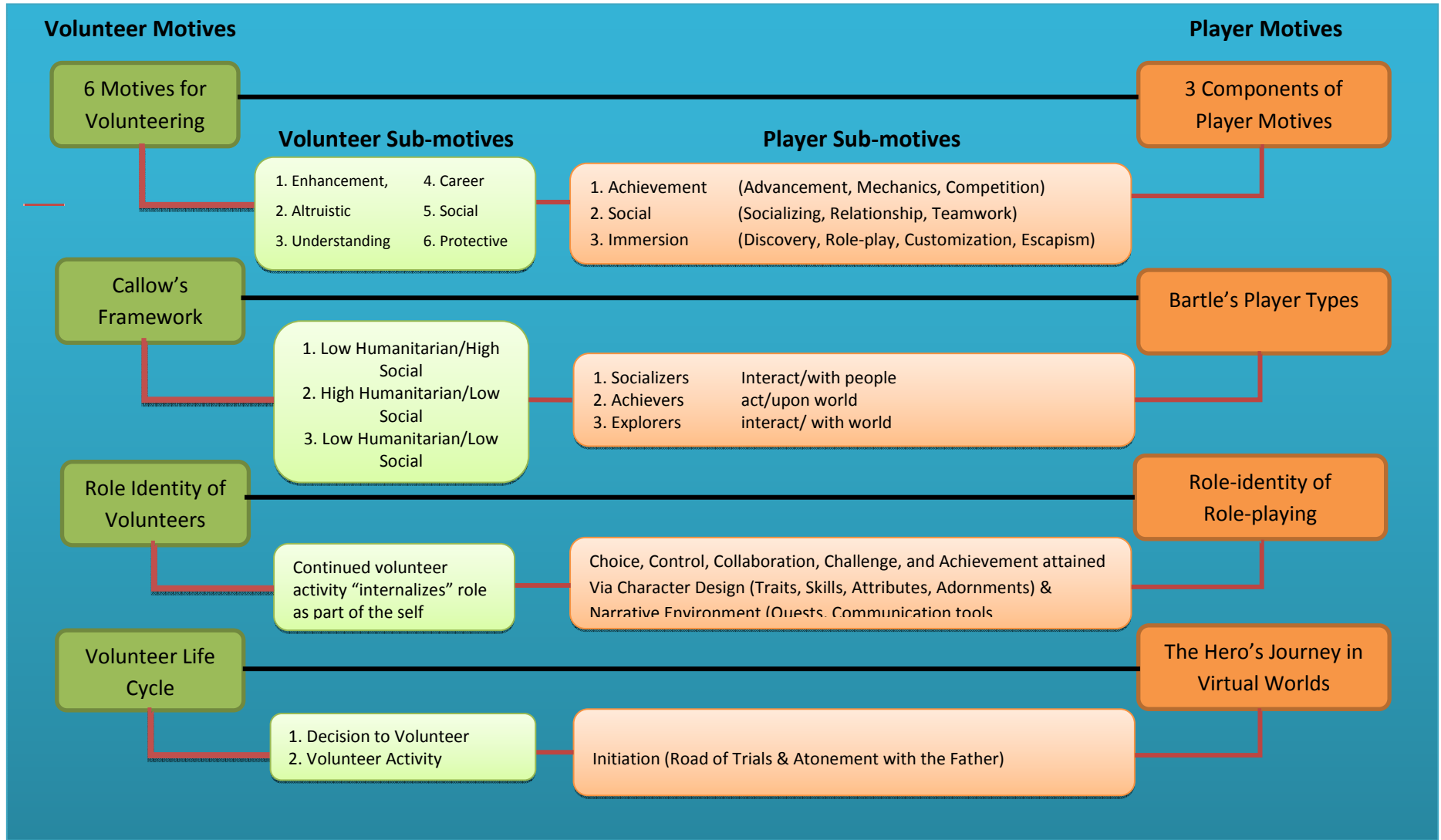
Determine design approaches and align working player and volunteer motivation models. Select and use general design approaches as a framework in evaluating player motives, and volunteer motives.¹



¹ See Appendix B1

Step 2:

Align sub-motives of volunteer and player motivation models²



² See Appendix B2

Step 3:

Use volunteer program-based profiling to identify traits and use best volunteer program practices to define the organization for which to develop gamified volunteer programs³

VOLUNTEER ORGANIZATION PROFILE

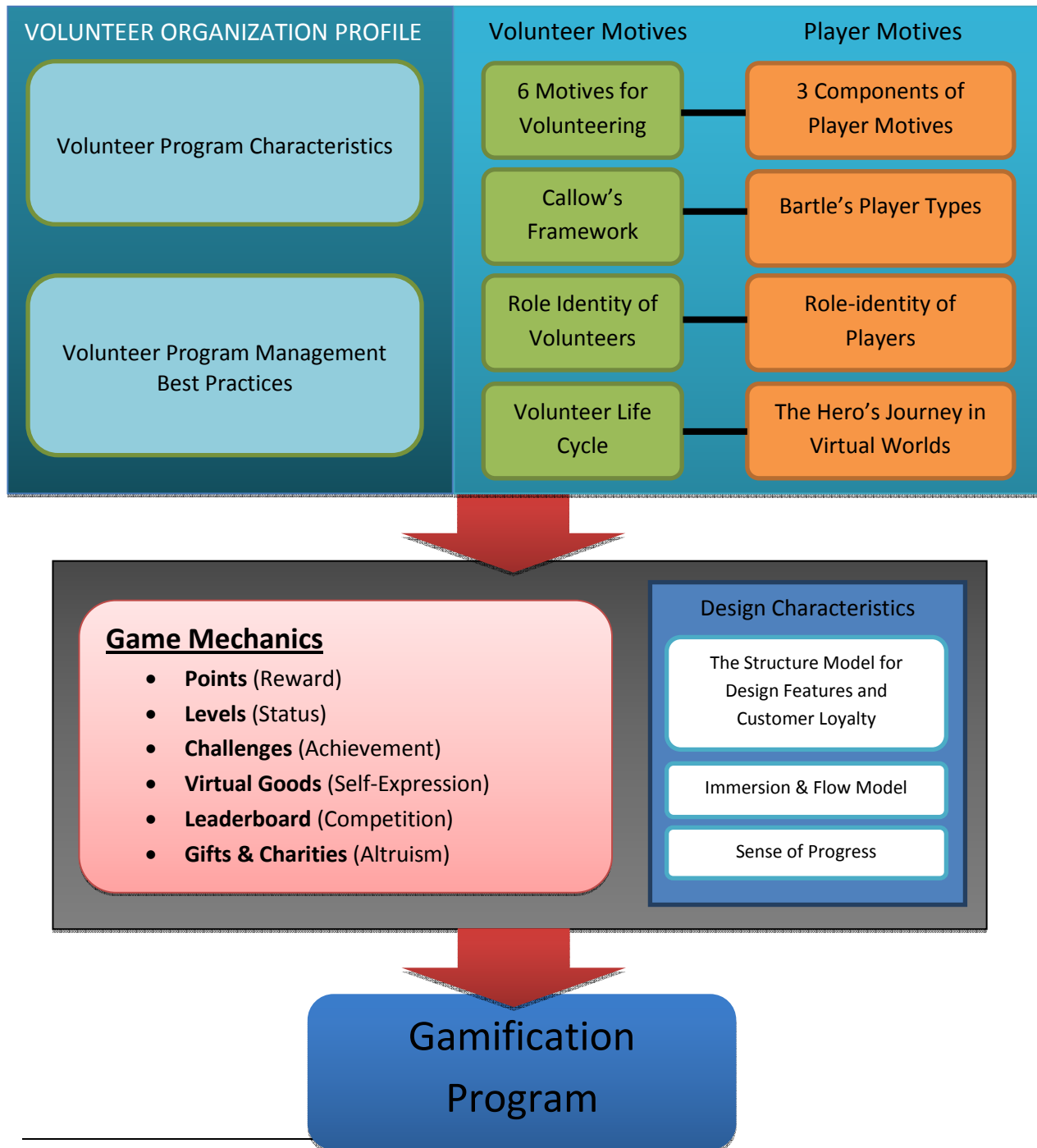
- Size (based on periodic expenditures)
- Level of volunteer involvement (number of volunteers)
- Predominant role of volunteers (direct or behind-the-scenes tasks)
- Beneficiary industry (e.g. education, arts & culture, health)

- Written policies to govern volunteer programs
- Orientation of volunteers
- Basic and on-going training of volunteers
- Empowerment of volunteers to manage other volunteers
- Recognition activities
- Evaluation of volunteers
- Training for paid staff to work with volunteers
- Sufficient resources for volunteer programs with volunteers

³ See Appendix B3

Step 4:

With the given volunteer organization profile and volunteer-player motivations, develop proper game mechanics (which intrinsically embody and apply fundamental design characteristics) with which to target and engage aligned volunteer-player motivations within the context of a NPO's volunteer program. With this process, this study will be able to construct a gamified volunteer program.⁴



⁴ See Appendix B4

An Example of Volunteer Organization Profiling and Mock Game Design for TUVAC

Basic Overview

In an on-campus university context, TUVAC (Trinity University Volunteer Action Community) is defined as a one of Trinity University's *chartered organizations*, "commissioned by Trinity University to serve specific purposes. These organizations contribute to the general goals of the University and benefit or serve relatively large numbers of students." (Trinity University, 2011)

As of 2011, TUVAC's Mission has been to "help connect volunteers to community service programs, to bridge the social gap between Trinity University and the greater San Antonio community, and raise awareness of issues pertaining to social responsibility so that Trinity students may become better informed citizens of their university, community, and the world" (Trinity University, 2011). Therefore, TUVAC's functional role as a NPO is a liaison agency that mainly coordinates and directs Trinity students to volunteer organizations around San Antonio. Therefore, the organization often has various different volunteer activities throughout its operations that do not adhere to a particular beneficiary industry (e.g. healthcare, arts, or culture).

Using the management practice characteristics of NPOs identified by Hager & Brudney (2004), there are four qualities that define TUVAC. The first of these is organization size, which is measured by its annual expenditures. In the case of TUVAC, approximately \$18,000 to \$20,000 is spent based on the organization's 2011-2012 budget proposals. Secondly, the level of volunteer involvement, measured by the number of volunteers, varies weekly in TUVAC. This fluctuation of volunteers is due to their open membership and commitment-free policy to all university students. The third characteristic is the predominant role for volunteers, which is examined as the type of service (direct or indirect service) the volunteers are participating in. Here, the predominant role of TUVAC volunteers is mainly dependent on the nature of the program tasks and their availability at a volunteer event. The fourth quality of volunteer management practice is the beneficiary industry the organization is in. For TUVAC, there is no specific beneficiary industry that is participated since its operations revolves around 25 different volunteer programs (animal, disabilities, homeless, child, education, public property...etc), where the organization changes programs weekly.

Based on the best practices of volunteer program effectiveness (Ellis, 1996; Fisher & Cole, 1993; Grossman & Furano, 1999; McCurley & Lynch, 1996; UPS Foundation, 2002), there are six key elements that need to be considered: volunteers orientation, job descriptions for volunteers, empowerment of volunteers to manage other volunteers, recognition activities (for volunteers), evaluation of volunteers, and sufficient resources for volunteer programs. In this, there exists no volunteer orientation because no official membership exists for the volunteer. As such, volunteers are not given job descriptions (unless they are appointed program heads).

Moreover, TUVAC does provide volunteers opportunities to be trained as program heads. In terms of recognition, TUVAC holds an appreciation banquet at the end of the year and provides food at events that run over meal times. The organization also makes an effort to evaluate volunteers based on the amount of service hours logged into their system via a website. Lastly, TUVAC's budget for its volunteer programs is highly regulated due to on-campus funding process (which is limited, but has a relatively guaranteed financial position since it is a university-recognized chartered organization).

Hence, based on the proposed five-step model to developing a gamified volunteer program, the following prototype game design outline and brief summary is created for the initial couple minutes in a gamified volunteer program:

1. Title Page
 - a. Game Name:
 - i. Tiger-Serve (T-Serve)
 - ii. Version 1.0V, Jon Fu, Created Fall 2011
2. Table of Contents
 - a. TUVAC Organization Summary
 - b. Game Overview
 - i. Involves the aspects of personal profile management that functions to motivate and retain TUVAC volunteers through the game mechanics of points, levels, challenges, virtual goods, leaderboard, and gifts & charities. This all functions to provide the player with the ultimate goal of decorating and upgrading virtual "living" buildings and their own room on Trinity University's virtual campus, which weekly earns in-game points based on the volunteer's participation in TUVAC. Each player is limited to only one "campus improvement" a day and three "personal room improvements" a day.
 - c. Character (creating your own campus)
 - i. Customization (user adds improvements on virtual campus)
 - ii. Class (What major are you? Provides certain privileges into modifying different buildings)
 - iii. Specialization (career-orientation)
 - d. Story
 - i. Quest-based (or volunteer tasks)
 - e. Game Mechanics:
 1. **Leaderboards** (for the amount of service hours participated)
 - a. Relative (bi-weekly)
 - b. Top 20 (bi-weekly)
 - c. All-Time Best
 2. **Achievements**
 - a. Titles
 - i. "Bob the builder" (added 3 improvements to campus)
 - ii. "Teddy Mosebee, the Architect" (added 10 improvements to campus)

- b. New “Room” Avatar Look (colors, costume,...etc)
 - i. Start with an empty room
- c. Newer Responsibilities
 - i. Study management
- d. Discovery (unlock new tabs/ pages)
 - i. Study managing privileges
 - ii. Leaderboards (can’t be viewed unless at a certain rank/level)
 - iii. Personal informatics.
- e. Badges
 - i. “Commander and Chief” (study managed at least 3 different service studys)
 - ii. “Bohemian Dresser” (purchased a piece of seasonal costume from each season)
 - iii. “Hoard-est” (accumulated 200 gold)
 - iv. “Let’s Get It Started!” (Attended first event)
 - v. “Let there be light.” (Created first event)

3. Levels (1-10)

- a. New skills
- b. New Service Events
- c. New Potential Assigned Responsibilities
- d. Rank
- e. Loss Aversion
- f. Limitations

4. Points

- a. A form of virtual currency (can only be exchanged for virtual goods)

5. Virtual goods and spaces (exclusive virtual goodies for fun)

- a. Purchased with points and a given rank
- b. Different outfits for your character
 - i. Seasonal (Fall, Winter, Spring)
 - 1. Christmas tree in personal room
 - 2. Halloween pumpkins in Northrup Hall
 - ii. Event-based
 - 1. Cancer Awareness Week Ribbons

6. Random Challenges

- a. Randomly suggested quests that, if completed, can allow player to earn extra points

7. Gifts & Charities

- a. Sending and receiving “personal room” virtual goods to/from other users

Discussion

Overall, this study was able to systematically find, evaluate, and suggest an existing and supported relationship between the key constructs (gamification, volunteers & nonprofit organizations, and game design & theory) and provided a theoretical answer to this study's research question. Although the study was able to compile support to argue and link the relationship between gamer motivations and volunteer motivations, more studies need to be conducted in this area insofar that points of references of different credible sources can be established and developed. In particular, one of the major flaws of this study is its lack of literature regarding gamification costs, volunteer budgets, and volunteer policies. In addition, using TUVAC as a NPO context to create a mock gamification outline was impractical. The reason for this is because TUVAC does not operate with a consistent volunteer/membership base and thus cannot represent a conventional volunteer-based NPO.

Nevertheless, based on the literature and insights of this paper, this study has shown that applying gamification to nonprofit volunteer programs can be feasible from a theoretical standpoint. Using the five-step process model developed in this study, it is possible to adapt quantitative studies that can yield empirical results to evaluate the actual relationships between volunteer motivations and gamer motivations. However, there are still many areas this study was unable to address due to its limited scope.

Some possible future studies may investigate the financial feasibility of gamification as this paper was unable to gather sources that discuss the financial benefits of gamification and whether it is worthwhile for nonprofits to invest in creating, implementing, maintaining, and updating a gamified volunteer program. Another possible study may focus on volunteers' attitudes towards having a gamified volunteer program where volunteers are rewarded with some

sense of progress (with the use of game mechanics based on volunteer motivations) to drive task engagement and volunteer retention. With these future studies, the applicability of gamification can potentially begin to build an adequate foundation justify nonprofits' use of gamification to lower volunteer turnover, volunteer marketing costs, and create a healthy and personal community for their volunteers to interact and relate with. As such, gamification may possibly provide a sustainable tool through which society is motivated to do social good.

APPENDIX A

- **Points**—often used in non-game apps as a way to denote achievement. Points also measure the user’s achievements in relation to others and work to keep the user motivated for the next reward or level
 - *Club Psych’s engagement with fan-base:*
NBC/Universal executive Jesse Redniss introduced a character rewards system for the TV series on the USA Network, where hardcore fans were awarded points along with other incentives to raise page views by over 130% and return visits by 40%. The result in the rise of engagement generated substantial revenue for the company, attracting registered user counts from 400,000 to nearly 3 million since the launch of the system.

- **Badges**—like the physical origins of the object, a badge represents a kind of social status that is earned and collected via completing various tasks, ranging from easy to difficult
 - *Foursquare, Inc.’s location-based networking application:*
The company’s co-founders, Crowley and Selvadurai, utilized the mechanic of badges, a more single-player orientation, with mobile social networking and succeeded in engaging an additional 10 million customers, raising \$50 million.

- **Levels**—an indication of accruing a certain degree of activity and/or reaching a particular goal within a community which should be given certain amounts of respect and status
 - *Zynga, Inc.’s Farmville level-up system:*
Zynga uses levels to make seemingly mundane tasks, such as in-game “tending to crops,” more enticing and meaningful. Each time users levels up, they get better discounts for becoming more loyal patrons. This mechanic, along with other core mechanics has allowed Zynga to continually engage and retain its users while experiencing high growth in revenues (based S-1 filings) (Parr, 2011).

- **Leaderboard**—a ranking system that indicates personal informatics (Anderson, 2011), which provide users with statistics about the user, his/her friends, and/or the community and uses competition to motivate behavior
 - *NextJump, Inc.’s Employee Fitness Program:*
CEO Charlie Kim implemented a reward system that awards the top performers with a cash prize. After implementation, 12% of the company’s staff began a regular workout schedule.

- **Challenges**—these are challenging tasks that range from simple to complex and may sometimes require and involve communal activity or group play.
 - *Kevin Richardson's Speed Camera Lottery (2009):*
Using the challenge mechanic in Scandinavia's streets, Richardson created a speed limit system that rewards drivers who comply with the posted speed limit by taking pictures of license plates and splitting the proceeds generated from speeders. As a result, he reduced the average driver speed by 20% in Stockholm, which meant fewer injuries, reduced insurance costs and better environmental benefits.

- **Virtual Goods**—for a game economy to be effective over time, virtual goods function to allow users the ability to spend their earned points and customize something (i.e. character) which reflects their personal identity in a community.
 - *NBC's Dunder Mifflin Infinity*
In 2008, Bunchball, Inc. helped NBC Universal create a gamified multiplayer website for the fans of *The Office* series. When users registered, every user is given his/her own desk space within the "branch" they are assigned to. As such, Bunchball created virtual goods (e.g. desk items based on the show) that were able to motivate fans. As a result, there was a 120% increase in the site's traffic.

- **Gifts & Charity**—in a community where people seek to foster relationships, gift-giving can be a strong motivator, where it functions as an altruistic expression.
 - *Jonathan's Card (2011)*
In July 2011, entrepreneur Sam Odio conducted an independent social experiment by introducing a free rechargeable/chargeable Starbucks card to the online community called "Jonathan's Card." Based on the idea of "take a penny, leave a penny," the card was able sustain its credit among users until Starbucks shut it down a few months later due to a reported misuse. However, this experiment shows that this form of game mechanic does work, even when users do not necessarily know each other.

APPENDIX B1

Step 1: Consider Design Approaches

In regards to using the “4P” Marketing Paradigm of Volunteers, the product (volunteer experience) and price (volunteer cost & effort) can be set as direct objectives achieved by Volunteer-Player motives (the common motives identified between volunteers and gamers), where triggered Volunteer-Player motives can generate engagement via lowering perceived cost of volunteering and enhance customer (volunteer) satisfaction. Promotion (organization-volunteer communication) and place (ease of donation & effort) can be set as direct objectives achieved by Volunteer Organization Profiling, where the appropriate composition of the organization (e.g. organization size (based on number of volunteers)) dictates the scope of the gamified system to fully satisfy volunteers within a particular volunteer program. These objectives thus hold the premise of the functional approach of volunteers, where as long as volunteers have their motives fulfilled (or satisfied), they will continue to volunteer for the organization.

APPENDIX B2

Step 2: Link Player Motives to Volunteer Motives

As every game mechanic functions in various ways to engage audiences, so do the motives that are affected. Hence, for the purposes of demonstrating the five-step model to produce a gamified volunteer program, the “points” game mechanic will be used as an exemplar of this process.

In the “Six Motives for Volunteering,” points can provide the submotive of enhancement and is aligned with player submotive achievement. It provides them a sense of advancement relative to their communities and self. In addition, according to Bunchball, Inc.’s game Mechanics/Human Desires Matrix, points can offer the proper feedback for volunteer’s need for reward, status, competition, and altruism.

In terms of “Callow's Framework,” points provide the submotive of personal development (high humanitarian/low social) and employment-related (low humanitarian/low social) and aligned with the player types "Achievers" and "Explorers," where points offer players a reason to interact with or act upon the world or setting they are in.

Within the “Role Identity of Volunteers Model,” points provide volunteers a reason to continue investing in the game and "internalize" points as a part of the self. Here, points function as a form of communication tool the player uses in evaluating self-worth in the game narrative environment.

The activity of earning points changes as volunteers enter the second and third stage of the Volunteer Life Cycle. In the second stage (The Decision to Volunteer), points offer an immediate and expected award and incentive for volunteers, which match volunteer expectations with the organization’s promise. This is linked also to the second stage

(Initiation) of the Hero's Journey, where collecting sufficient points (to spend) offers volunteers an obstacle (The Road of Trials). In the third stage (Volunteer Activity), the volunteer focuses on meeting their needs until those needs have either changed or are satisfied/ dissatisfied. Points provide a continuous stream of need for the volunteer to keep volunteering and journeying towards succeeding (i.e. gathering enough points to buy a new avatar look) in the game's own terms (Atonement of the Father).

APPENDIX B3

Step 3: Profile Volunteer Organization

Using TUVAC as an example in several volunteer management contexts with regards to points, size (measured by Annual Expenditures) designates the extent to which a gamified system can allow for utilization and exchanges of points. The level of volunteer involvement (number of volunteers) is based on TUVAC's semester-round open-membership to students on campus, where possible point rewards can be given to members for bringing friends with them to service events. Recognition activities can provide a venue to give positive feedback to players for their efforts. Evaluation of volunteers: Points also offer a method of measuring volunteer commitment over time, allowing the organization a better way to communicate with dedicated or casual volunteers. Since TUVAC takes part in many beneficiary industries (health, art, culture, education...etc), it is possible to have different kinds of points (e.g. health points) that can be later used to purchase special virtual goods that require those points. Thus understanding these elements of the volunteer organization allows the online gamification applications to fit the needs of the volunteers in terms of the scope and depth of system.

APPENDIX B4

Step 4: Using Game Mechanics

In terms of The Structure Model for Design Features and Customer Loyalty (SDC), points provide a feedback to achieve goals. Points can also be appropriately used as an operator that assists users with achieving their own goals (whether it be the user with the highest point count, most items...etc) As long as there is a wide variety of appealing functions to spending, keeping, and/or earning points, points function as a means to motivate players into a periodic flow state. Points are particularly great with creating a sense of progress because points are "earned" and remain accumulated and displayed to represent a certain quality of the player that is publicly shown to the immediate community. Hence, the gamified system must also have an adequate amount of content (i.e. badges, virtual goods, levels...etc) that is diverse, thematic, and fun for the points to actually "worth" something relative to the gamified system it is in.

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