

Between Donors and Beneficiaries: Towards a Theory of Dynamic Two-Sided Markets

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The NPO sector has experienced some significant changes and growth in the last decades. This paper takes a first step in applying a two-sided market model to describe the evolution of that sector. It finds that “classic” purely donative NPOs may have once fulfilled the characteristics of a platform in a two-sided market featuring donors and beneficiaries linked by nonprofit intermediaries. However, the transition of the sector from donative to earned income-reliant requires an extension to the model of two-sided markets to a less static approach. The demand and supply sides in the two-sided market model have become more complex. The paper therefore suggests a dynamic model, in which consumers and financiers of NPO products and services can move from one side of the platform to the other and take on different and at times overlapping roles.

Keywords: Two-sided markets, nonprofit organizations, third sector, transition

Introduction

The nonprofit world has experienced some significant changes over the last decades and is still in the process of being re-shaped. Many western countries observe increasing numbers of nonprofit organizations (NPOs) across all forms and sectors (Salamon, Sokolowski, & Haddock, 2017). Especially the first decade of the 21st century brought a proliferation of the third sector with it, with not just more, but bigger nonprofit organizations (Kim & Bradach, 2012). However, due to this growth of the sector, many NPOs are under pressure to find new ways of funding, since governments are cutting back their support. Increased competition for limited resources, such as volunteers, government funding, or private donations, combined with changes in the nature of government support, has forced many NPOs to become more

market-like (Eikenberry, 2009; Froelich, 1999). New types of NPOs and hybrid organizations have emerged, such as the social enterprise, and new technologies have given rise to various forms of revenue sources and have changed the structure and shape of the sector (Billis, 2010). These developments divided NPOs into organizations that have become increasingly commercial in their activities and thus rely more heavily on earned income, and those that still rely primarily on philanthropic funding through donations from individuals, institutions, or the government (Ecer, Magro, & Sarpça, 2017). Both funding strategies are supposed to respond to increasing pressures and secure financing for their core mission-related activities (Moeller & Valentinov, 2012). However, the line between NPOs which are commercially active and for-profit firms has become blurred (Eisenberg, 2000). Many researchers have criticized this development (see Eikenberry (2009) or Maier, Meyer, & Steinbereithner (2016) for a comprehensive overview). The classic image of a nonprofit organization is still one of a fundraising charity, collecting donations from individuals and businesses to finance programs and services (Froelich, 1999).

The economic debate on NPOs has focused mainly on *why* they exist, and not taken into account the rise of such different forms of NPOs. Theories such as contract failure theory (Hansmann, 1980) or market failure theory (Weisbrod, 1988) do not explain *how* NPOs operate and coexist in a market setting. And “(...) the construction of consistent theoretical explanation of the nonprofit sector is complicated by the significant diversity of nonprofit organizations. (...) major existing economic theories of nonprofits, in spite of their important complementarities, still do not offer equally convincing explanations for every possible structural and organizational types of these organizations.” (Valentinov, 2005, p.22).

To add to this debate and stimulate an understanding of this shift in the nonprofit sector, I utilize two-sided market theory to explain the transition of a sector from traditionally being mostly donative to evermore transactional. Two-sided market theory (Rochet & Tirole, 2004) has successfully been applied and used to describe the behavior of industries and businesses in the for-profit environment (Eisenmann, Parker, & Alstyn, 2006; Evans & Schmalensee, 2007; Finley, 2017; Rysman, 2009; amongst others). Two-sided markets are generally defined as markets in which platform organizations enable interactions between independent agent groups and try to get two sides to use the platform by appropriately charging each side (Rochet & Tirole, 2006). Classic charities fulfill all the characteristics of a platform operating on a two-sided market and the model is a good fit for a wide range of NPOs, in which donors portray third parties who demand a NPOs' service on behalf of a beneficiaries group, to which donors do not belong (Finley, 2017). However, a modern understanding of NPOs calls for a revised model. The rapidly growing number of NPOs today are facing stagnant or even decreasing government support on one hand, and pressing global issues on the other hand. Private contributions no longer make up the majority of revenue sources, but fees and charges are becoming crucial funding bases (Chetkovich & Frumkin, 2003; McKeever, 2015; Salamon et al., 2017). Impact investing, crowdfunding, donor-advised funds, and other innovations have changed the way NPOs operate and raise funds. Drawing on two-sided market theory, I will analyze the transition of NPOs from a classic to a dynamic model, and add to a better understanding how NPOs co-exist and operate in dynamic market situations. The goal is also to present predictions that emerge from economic modeling of nonprofit markets and to derive research propositions from this transition into dynamic two-sided markets.

The remainder of this article is structured as follows: I will first introduce the concept of two-sided markets and apply it to donative NPOs. The following section will extend the model to

make it more suitable for NPOs which rely on earned income, transforming it into a dynamic two-sided market model. I will conclude with implications derived from this model and offer an agenda for further research.

The Classic Two-sided market model

The term “two-sided market” was introduced by Jean-Charles Rochet and Jean Tirole in 2003 (Rochet & Tirole, 2003). They identified two-sided markets as a form of market where platform businesses or organizations act as a liaison between two or more independent groups of customers. Members of both customer groups benefit from the existence of the other group and interact with each other through the platform. The intermediary organization hence needs customers from one side to attract customers from the other side and vice versa (Evans, 2003). Rochet and Tirole (2006) name videogames, operating systems, or credit card companies as examples for such markets. Further examples are financial exchanges, real estate agencies, employment agencies, airports, academic journals, flea markets, web portals, stock markets, and newspapers (Wright, 2004).

The price of using the platform (usage or membership charges) influences the willingness of customers to trade on it. Customers will only use a platform if the transaction costs are cheaper than trading directly and if transaction costs and externalities prevent them from interacting without an intermediary. Platform organizations therefore exist in settings where they can elude externalities and minimize transaction costs (Evans & Schmalensee, 2007). Opposed to traditional thinking about competition, it is found that in two-sided markets welfare is often maximized at prices below the or other than marginal cost (Eisenmann et al., 2006).

Two-sided markets display mediated interactions between buyers and sellers, so the gain from a trade does not depend on the allocation of the resources, but the price level on *both* market sides, which influences the transaction volume and the platform's profit.

Organizations competing in two-sided markets experience feedback effects on one side of the market from a price change on the other side of the market (Evans, 2003). The dependency of the transaction volume on the fee structure, rather than just the fee level, is the main criterion that differentiates two-sided and one-sided markets (Rochet & Tirole, 2006).

Two-sided markets are characterized by strong network effects, which can be direct or indirect. Direct network effects occur when one transaction partner benefits from an increase in the number of people using the platform. The utility received from using a service directly increases, the more people access the platform (Katz & Shapiro, 1985). Examples for this would be social networks or online calling services, which are only useful when other people are using them.

Indirect network effects describe how users on one side of the market indirectly benefit from an increase in the number of users on *their* market side, as it attracts more potential transaction partners on the *other* side. An example for this is eBay. It is not very attractive to sell something on eBay if there are no buyers. The more sellers there are, the more likely it is that buyers register with eBay, and vice versa. In this case we often find a “chicken-and-egg-problem”, where no side can emerge without the other (Caillaud & Jullien, 2003). The presence of indirect network effects is a key difference to other market forms (Haucap & Heimeshoff, 2014).

The size and structure of two-sided platforms is determined by various factors (Evans & Schmalensee, 2007). Indirect network effects and economies of scale have a positive effect on the size or concentration of two-sided platforms, whereas physical constraints (congestion), the degree of platform differentiation and the option to use more than one platform (multi-homing) have a negative impact. Multi-homing, as opposed to single-homing, can be done by either one or both customer groups (Armstrong, 2006), and is common in many industries (Evans, 2003). This indicates that platforms are making use of horizontal differentiation, meaning they choose specific characteristics and prices to engage a certain group of customers.

A model of a classic two-sided NPO

The “classic” model is based on the traditional image of a fundraising NPO, relying on donations from individuals and institutions, to provide programs and services to society (Froelich, 1999). A classic NPO therefore falls into the donative category as described by Hansmann (1980), who dichotomizes NPOs into donative (charitable donations as the main revenue source) and commercial entities (earned income as the main revenue source). Figure 1 shows a simplified model of a donative NPO:



Figure 1: Model of a donative NPO as a two-sided platform, own illustration

There are two parties connected through the NPO: donors and beneficiaries. Donors participate in the transaction via the platform because it is more efficient for them to do so

than to administer the donations to the beneficiaries directly (Krashinsky, 1986). By catering to the needs of two markets the NPO holds the platform position and is responsible for matching the donors with the beneficiaries, creating a two-sided structure, with a market for resource acquisition and another one for resource allocation (Sargeant, 2005, p. 57). The institutional design of the NPO prevents the donors and beneficiaries from reducing externalities (over-consumption, under-provision, etc.) that might arise if they traded directly with each other.

Network effects are present on both the donors' and the beneficiaries' side. For new or potential donors, the signaling effect from existing donors has an impact on their decision to commit to a donation (Glazer & Konrad, 1996). Due to economies of scale the cost of administration and fundraising are expected to decrease with more donors, making it less expensive to donate. For beneficiaries, network effects occur in the form of an increased awareness by NPOs and donors, if there are larger numbers of a particular group of beneficiaries. Awareness of need is a main driver of charitable giving (Bekkers & Wiepking, 2011) and increases beneficiaries' chances of receiving funding or financial aid. Both direct and indirect network effects exist in the NPO's stakeholder circle and have a positive effect on NPO size and number of NPOs active in a particular field.

The option of multi-homing, another feature of two-sided markets, is more likely taking place on the donors' than on the beneficiaries' side. While consumers of NPOs' programs and services often find their needs met with one organization helping them or do not have the funds to seek more help (Ostrander, 2007), donors can freely choose to donate to more than one organization, even though major donors might select only a few organizations to support to keep their cost of information low. Following the theory of two-sided markets, an NPO is

in a monopoly position as soon as one of the markets it caters to is forced or determined to single-home.

Rose-Ackerman's (1982) economic model of NPOs' competition behavior states that there are many NPOs competing for donations through fundraising. They each produce a unique mix of services, in a market with no entry barriers. NPOs want to attract as many of these multi-homing donors as possible and appeal to their target donor groups, so they choose differentiation to present their particular features by specializing themselves, rather than just imitating their competitors (Bilodeau & Slivinski, 1997). Increasing numbers of NPOs put additional pressure on incumbent organizations to be different and stand out, which creates a lot of niche-NPOs and a crowded market (Irvin 2010).

When looking at a generic donative NPO the “fees” paid by the donor are positive. It is the opportunity costs of having the NPO redistribute the donation, instead of having to find beneficiaries to give the money directly. The sum actually redistributed is the amount of the donation minus the cost of redistribution, for example administrative or fundraising expenses. The beneficiary often pays no explicit membership fee. The fee structure is therefore one-sided, which makes the price non-neutral, since changes in price or cost on one side cannot be reallocated to the other market side. This implies price non-neutrality, a main criterion to differentiate “regular” from two-sided markets.

A separation of donors and beneficiaries, as modelled in a classic two-sided market with no direct interactions between the two groups, explains the existence of NPOs not only because they reduce transaction cost, but because they serve as a trustworthy intermediary platform. Contract failure theory (Hansmann, 1980) therefore holds because donors are not able to see

the beneficiaries on the other side of the platform. The nonprofit platform acts as a separator between those who pay for and those who consume a product or service. In more economic terms, buyers and end-users are broken apart and they need the non-distribution constraint to overcome this distance and inability to observe. The two-sided nonprofit structure is needed to increase donors confidence in the organization's sincere behavior (Shaviro, 1997).

I demonstrated that classic, donative NPOs are well described by a two-sided market model. In such a context, classic market failure theories, such as contract failure theory, can explain the existence of NPOs, but lack to account for the diversity of NPOs emerging and the coexistence of providers from various sectors in the same field (Steinberg, 2006).

The Shift to a Dynamic Two-sided Market Model

Over the course of the last decades, the entire nonprofit sector has experienced some significant changes. It has gained economic importance in many developed countries as a service provider (Anheier, 2009), more responsibilities have been transferred to NPOs due to decreasing government spending (Austin, 2000), and as a consequence we observe an increase of NPOs and foundations in most Western countries (Dolnicar, Irvine, & Lazarevski, 2008; Irvin, 2010; Porter & Kramer, 1999; Thornton, 2006; amongst others). Researchers describe a commercialization of the sector (Anheier, 2009; Maier et al., 2016; Tuckman, 1998), with the term “commercialization” meaning an increased reliance of NPOs on earned income (Salamon, 1993). There are opposing views to this (Child, 2010), but generally scholars agree that many NPOs have experienced a turn towards the market and observe a shift in funding from mostly private donations to increased reliance on earned income (Froelich, 1999). The Nonprofit Almanac 2012 reports that almost half (47.5 %) of public charities’ revenue comes from fees for programs and goods, and 24.5 % of total revenue

comes from the government (grants excluded) (McKeever, 2015). Almost three-quarters of the total revenue are earned income, which is a very different situation than the classic two-sided NPO model portrays. Revenue generation through market-oriented activities is often seen as a solution from dependencies and restraints from government grants and private donations (Zimmerman & Dart, 1998). In the case of an increasing number of NPOs – not just in areas where it is more obvious, such as the art sector – donors have a direct output from the NPO that they can consume and enjoy. NPOs have increasingly complex stakeholder structures (Balsler & McClusky, 2005), since they are now not only relying on donations, but also have to satisfy their beneficiaries' needs, attract volunteers, fulfill government requirements and uphold a good reputation.

I therefore suggest a dynamic model of a two-sided platform in a nonprofit context, as depicted in figure 2 below.

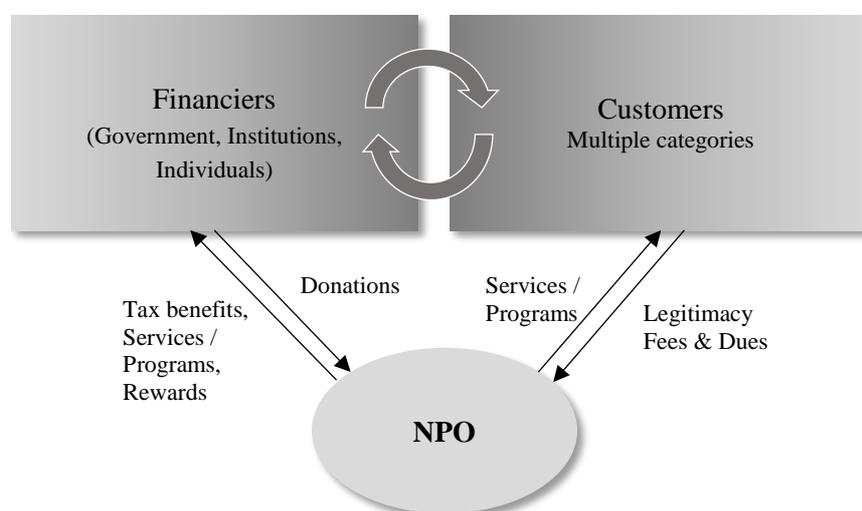


Figure 2: A dynamic two-sided market in a nonprofit context, own illustration

The NPO still functions as a platform between two customer groups, earlier called the donors and the beneficiaries. However, the distinction between those two groups is no longer a very clear one and donors become “financiers” and beneficiaries “customers”.

When beneficiaries no longer receive all services and goods for free they contribute to the NPO’s revenue and therefore move to the other side of the platform – the group of “financiers” –, where they add onto donations, government subsidies and contracts, and other sources of funding. The previous donors get a reward for their contribution to the NPO, may it be in a material (consumption of good or service, gifts) or non-material (tax benefits, recognition, warm glow) form and are therefore also part of the “consumers” (Eikenberry, 2009).

In spite of this new connectedness, most assumptions and characteristics of a two-sided market still hold. The NPO still serves as a platform between user groups, even though they are no longer completely distinct from each other, but the boundaries are blurred. Network effects are present and have a positive effect on platform size and concentration. The ability to multi-home will lead to an increase in size of a platform without taking customers away from another platform. Multi-homing is now common on both sides – the increasing number of NPOs and the lack of attachment to an NPO will bring customers to try and find cheaper alternatives with other service providers. Financiers are solicited by competing NPOs and may switch between NPOs without increasing their overall financial input (Thornton, 2006). We can observe price non-neutrality, since NPOs have different customer groups that they can price differently. For example, a public health clinic may charge patients a fix amount, but use the surplus to subsidize services for people who are financially worse off. One characteristic of two-sided markets, however, has become obsolete in the dynamic model. Attaining a monopoly position on one side of the market is impossible, if the boundaries

between these groups are blurred. The strong customer/financier-fluidity dissolves market side boundaries, which leaves the NPO with no option to force either one of their customer groups to single-home.

Implications

The transition from a donative to a transactional two-sided nonprofit sector has several implications. First, it confirms Steinberg's (2006) considerations regarding the existence of NPOs. Contract failure theory loses its explaining power, now that the beneficiaries are part of the payees and can be found on either side of the platform. The opacity of the platform and inability of financiers to observe diminishes and both financiers and customers are funding and receiving. Even if financiers just consume a warm glow, they are giving and getting at the same time (Ostrander, 2007). The dynamic two-sided market model supports supply-side arguments for the existence of NPOs. NPOs therefore exist to offer a “trading” platform between two or more parties, similar to for-profit firms. Consequently, the reason for choosing the nonprofit over a for-profit company must be based on intrinsic or ideological motivation (Valentinov, 2006).

NPOs' desire to achieve a monopoly position on donations or service provision can also explain the lack of cooperation often observed among NPOs (Dolnicar et al., 2008), especially in a donative traditional NPO. Being a single-home on one side of their market seems to be a better strategy for survival than cooperation with other organizations (Armstrong, 2006). Policy-makers and industry organizations need to provide a better regulatory framework to encourage cooperation among NPOs competing for scarce resources, such as private donations or government funding.

Furthermore, the presence of network effects in a two-sided market setting can cause a constant reallocation of resources. Theory states that it is more attractive for one group to use the platforms if customers on the other side are using it as well (Evans & Schmalensee, 2007). If one customer group changes or moves away for some reason, then the other group will most likely follow. Changing trends in philanthropic behavior, for example, can shift awareness from one issue to another. Ten years ago, the pressing issues in philanthropy were quite different than today (Phillips & Jung, 2016). Where indigent people and causes go, volunteer workers (and funding) will follow due to indirect network effects between the two groups. This constant reallocation of resources can make it very risky for an NPO to build up long-term involvement with a project or specialize through horizontal differentiation in the provision of a particular service or good. A reallocation of the workforce and financial flows can also impact the economy of a whole country, depending on the extent of the reallocation. Analog to for-profit firms, in a context of nonprofits generating earned income, financiers – as the term already implies – act as shareholders. They give capital to the NPO and wish to get something out of it, similar to a dividend. The NPO becomes merely a production facility and both financiers and consumers of the organization hold property rights onto it. This transitioning from being stakeholders to shareholders of an NPO reduces managerial shirking, something that is considered to be one of the main issues of the attenuation of property rights in an organization (Alchian & Demsetz, 1972). NPOs are now forced to better meet market needs. This increasing similarity with the features of a for-profit firm can be considered part of the “marketization” of NPOs (Eikenberry & Kluver, 2004). As NPOs become more exposed to these rotated, transitional markets, where donors are getting benefits and beneficiaries are becoming funders, they are more likely to be competing with for-profit firms (Rose-Ackerman, 1990). This raises the question: can NPOs in these circumstances hold on to their markets or areas of activities and keep for-profit competition out? Further

research needs to analyze (sub-)sector competition in more detail to investigate if NPOs can still hold on to their base when clients can choose between for- and nonprofit entities.

Increased competition among for-profits and NPOs can also inflate wages paid to an NPO's employees, to be able to attract workers who could otherwise seek employment in a for-profit firm fulfilling a similar role in a sector.

Market-orientation in literature about non-profits has often been considered orientation towards donors (Macedo & Carlos Pinho, 2006), but in a dynamic two-sided market it means orientation towards both financiers and customers. The success of NPOs no longer just lies on attracting the right resources from donors (Galaskiewicz & Bielefeld, 1998), but on serving two client groups who *both* contribute to the prosperity of an organization. This presents an organization with certain managerial challenges and further research could test empirically whether two-sided organizations have higher administrative expenses due to the complexity of managing such a dynamic environment. A possible further operationalization of those challenges could be higher measured stress levels of employees or a higher turnover rate of employees.

Lastly there are some implications for the finances of an organization in a dynamic two-sided market. What drives growth of NPOs is still an under-researched topic (von Schnurbein & Fritz, 2017) and further research should investigate whether organizations which generate their own income through programs and services show a steadier growth rate. In some countries, earned income might be a more reliable income source, since it is easier to control for an organization. In other countries or specific areas, government funding or donations could be easier to sustain due to the nature of service or the legal framework in a country. Relying more heavily on donations than earned income is a choice that every NPO needs to

make for itself. As Benefit Theory states, the nature of service or good produced by an NPO can lead to a different optimal income source for each organization (Wilsker & Young, 2010).

Conclusion

In this article I propose a new theoretical framework to analyze and understand nonprofit organizations in dynamic markets. The notion that NPOs are two-sided markets will potentially have further implications than those mentioned here, for both practice and research. The concept needs to be further explored and applied to NPOs in a more detailed approach, potentially looking at different forms of NPOs, rather than using a generic model. It remains a conceptual approach, but two-sided market modeling offers an explanation for diversity of NPOs. It reproduces an image of NPOs in a very dynamic, ever changing, transactional market, which challenges the traditional view of a donative, classic two-sided nonprofit sector. The dynamic model calls into question the market failure theories and offers an agenda for further research.

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