

EXPLORING VALUE CO-CREATION WITHIN NETWORKS: ACTOR-TO-ACTOR SERVICE PROVISION WITHIN A PUBLIC TRANSPORT SERVICE SYSTEM

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ABSTRACT

Purpose: This study explores how value co-creation occurs at a network level in a service system comprising representatives of business, consumer, and community actors. The research centres on the following questions: 1) what kind of operand and operant resources are contributed and integrated in the value co-creation process? 2) What value-in-use is experienced by actors? 3) What factors facilitate service-system functionality and value co-creation? Drawing on service-dominant logic, IMP literature and a qualitative case study the paper provides new insights into value co-creation at a network/system-level.

Methodology: A case study approach is employed to examine a unique partnership between a public transport provider and community groups who are invited to 'adopt' railway stations in Scotland. The 'adopt a station' scheme allows community users to utilize unused space within the station free of charge in order to provide services or facility improvements to benefit the community. The case represents a service-system where value co-creation occurs within Actor to Actor interactions in the interplay of C-to-C, B-to-C and B-to-B context, involving consumers, members of the community, rail staff and governmental organisations.

Findings: The study describes resource contribution and integration involving a range of actors. In the Adopt a Station case, organizational actors contributed principally operand (financial and physical) resources, and the community actors and rail operator become in themselves the operant resources that integrate resources, promote the network and build relationships through their drive and passion to make the adopt project a success. The provision of resources was motivated by the value-in-use each actor anticipates gaining from involvement in the service-system. Four critical prerequisites for value co-creation within the service-system were identified: the provision of access and nature of that access; the level of ownership taken by adopters; user empowerment, and an increased level of support from other actors in the service-system.

Contribution: The study of value creation within service systems comprising of relationships between a range of actors (both business and consumer) represents an interesting research gap in both S-D logic and IMP literature. This paper addresses calls for research to increase understanding of value co-creation at the service system and network level. The paper contributes by illustrating a) resources contributed and integrated at network-level and b) the value-in-use experienced by multiple actors c) the prerequisites for successful value co-creation. We suggest that firms should explore the potential for engaging versatile stakeholders and their networks of relationships around a common cause and make use of organically emerging service systems.

Key words: value co-creation, service system, service network, actor-to-actor, public transportation

INTRODUCTION

Marketing literature has predominantly explored value from the perspective of the customer (e.g., Eggert & Ulaga 2002, Flint 2002). Service researchers have widened the perspective to the level of customer-provider dyad with the recognition that the interaction between the parties has influence on customer perceived value (e.g. Grönroos 1998), but the value perceptions of other parties besides the customers have seldom been addressed. A growing number of scholars within the marketing domain have highlighted the systemic nature of value creation (e.g., Normann & Ramirez 1993, Davies 2004, Kothandaraman & Wilson 2001), and value creation at the level of service networks and value chains is increasingly identified as an important research area (Ostrom et al. 2010, Cova & Salle 2008, Vargo & Lusch 2011, Windahl & Lakemond 2006, Matthyssens et al. 2009). Empirical research investigating value co-creation within service-systems, however, remains scarce.

The service-dominant logic regards all actors, whether businesses or consumers, as resource integrators who exchange and interact to gain resources that can be used in their respective value creation processes (Vargo & Lusch 2008b). These processes involve a number of diverse stakeholders (Gummesson 2007) who form service systems that provide a context for value creation (Vargo et al. 2008). Despite these recent observations, the S-D logic approach has been preoccupied with benefits created for the customer. The IMP approach instead has long acknowledged that all business companies are simultaneously suppliers and customers, and that interaction between single counterparts is inevitably connected with their other interactions across the network (Ford 2010). Due to the IMP focus on business markets, few studies have examined service-systems that consist of different types of resource-integrating actors. Therefore, the study of value creation within service systems comprising of relationships between a range of actors (both business and consumer) represents an interesting research gap in both S-D logic and IMP literature.

The purpose of this study is to explore how value co-creation occurs at a network level in a service system comprising representatives of business, consumer, and community actors. The research centres on the following questions: 1) What kind of operand and operant resources are contributed and integrated in the value co-creation process? 2) What value-in-use is experienced by actors? 3) What factors facilitate service system functionality and value co-creation? Drawing on service-dominant logic and IMP literature, and a qualitative case study, the paper provides new insights into value co-creation at a network/system-level.

The paper is organized as follows. First, literature on resource integration and value co-creation is briefly discussed. Second, methodology and the case are presented. The subsequent sections report the study findings, followed by conclusions and implications for research and practice.

THEORETICAL BACKGROUND

MUTUAL SERVICE PROVISION WITHIN ACTOR-TO-ACTOR SERVICE-SYSTEMS

The appropriateness of the traditional division between business-to-consumer and business-to-business marketing is increasingly being questioned, e.g. by Gummesson and Polese

(2009), Gummesson (2011) and Vargo and Lusch (2011). One of the foundational premises of the service dominant logic is that all social and economic actors are resources integrators (Vargo & Lusch 2008b). This means that individual customers, households, companies, and other organizations are similar in the sense that they all are engaged in value co-creation through resource-integration (Vargo & Lusch 2011). Analyzing relationships or exchange only between business enterprises, between businesses and consumers, or between customers does not give a sufficiently wide view of value creation, as all exchanges are influenced by a network of actors (cf. Gummesson & Polese 2009). A more abstract designation “actor-to-actor” is suggested by Vargo and Lusch (2011) to emphasize the complex and dynamic system of actors that co-create value, and at the same time, jointly provide the context through which value gains its individual and collective assessment. The use of “actor” instead of “seller/ customer” is also a convention of the IMP approach.

The industrial network approach suggests that companies interact and develop relationships in order to enhance their resources and to access the resources of others (Harrison & Håkansson 2006, Gadde & Håkansson 2008). Similarly, the S-D logic approach suggests that actors form value networks where resources are integrated and applied through interaction to provide service-for-service (Vargo & Lusch 2011). Such a value network, or service system, is “a spontaneously sensing and responding spatial and temporal structure of largely loosely coupled value proposing social and economic actors interacting through institutions and technology, to co-produce offerings, exchange service offerings, and to co-create value” (Lusch et al. 2010, p. 20). Service systems are connected through the proposition, acceptance and evaluation of value (Vargo et al. 2008). Through value propositions, partners, suppliers, shareholders, and other stakeholders offer access to their resources, but they also expect reciprocation. The IMP view suggests that relationships between suppliers and customers are based on specific problem-coping by *both* of the participants (Ford 2010). In other words, the focus is not on how the suppliers may solve the problems of the customer, but each actor is considered to seek something and to contribute something through relationships. Exchange is motivated by application of resources for the benefit of another party with the anticipation of reciprocity (Vargo & Lusch 2008a).

A value proposition explicates the way an actor may use its resources, i.e. to provide a service that has potential for value co-creation with another actor (Vargo & Lusch 2008b). According to Ballantyne and Varey (2006), value propositions are “reciprocal promises of value, operating to and from suppliers and customers seeking an equitable exchange” (2006, pp. 334-335). An actor has specific capabilities, rooted in own available resources and the way they can be combined with others, that would attract other actors facing similar problems (Ford 2010). The “4R-model” developed by Håkansson and Waluszewski (2002, p. 17) offers a categorization of four types of resources: Two types are organizational, first, organizational units which include knowledge and experience of individuals and groups and their skills in handling resource combinations, and second, organizational relationships. Using S-D logic vocabulary, these resources can be considered “operant”, i.e. active, typically intangible and human resources, such as skills and knowledge, that can be used to act on something (Vargo & Lusch 2011). The other two types of resources in the 4R model are “operand” in nature, namely products and production facilities (Håkansson & Waluszewski 2002). Operand resources are passive, often tangible resources such as natural resources and equipment that need some action to be performed on to become valuable. Actors in a service-system integrate and transform different kinds of resources in interaction to co-create value (Lusch & Vargo 2006).

VALUE CO-CREATION AT A NETWORK LEVEL

The concept of value is increasingly considered subjective and context-dependent, and hence relative to an individual customer's situation (Eggert & Ulaga 2002, Vargo & Lusch 2004). The benefits and sacrifices are not fixed at the time of purchase, but are actualized during the consumption or usage of the good or service. Therefore products and services are not an end result of a value chain, but they serve as input to customer's own value creating processes (Normann 2001). In other words, goods and services do not have value as such, but their value is determined in the user's context (Normann & Ramirez 1993, Vargo & Lusch 2008a, Grönroos 2008).

According to the service-dominant logic, value is always co-created: the supplier contributes to value creation by making a value proposition, and the customer actualises the value by using what is offered to them (Vargo et al. 2008). In some cases, the customer can also be involved in co-production, which refers to user participation in the creation of the core offering of the firm, e.g. through shared inventiveness, co-design or shared production (Lusch & Vargo 2006). In other words, customers may actually co-create the value proposition proposed by other actors. Wikström (1996, p. 10) views co-production as 'buyer-seller social interaction and adaptability with a view to attaining further value'. In co-production exchanges, "interaction between the parties should generate more value than a traditional transaction process, during which seller and buyer meet briefly, exchange finished products and services and then go their separate ways" (Wikström, 1996, p. 10). Co-created exchanges provide opportunities for suppliers to customize their offering (Payne et al. 2008), and gain a more extensive role in the customer's value process by influencing the way customers integrate offerings with their own resources (Grönroos 2008).

Extant literature emphasises the role of customers shifting from passive recipients to active formulators and coordinators of value (Ostrom et al. 2010, Prahalad & Ramaswamy 2000, Prahalad & Ramaswamy 2004, Ramirez 1999, Hoyer et al. 2010). This makes an "actor-to-actor" view more suitable for value-creation contexts: as it is not a question of the supplier making a value proposition and the customer making use of the offering, but reciprocal relationships where all actors make and use value propositions, or even co-design them. Participation in such co-production may even be an important source of value-in-use in itself, as is evident for instance in the contexts of customer-led brand communities (Schau et al. 2009), virtual environments (Nambisan & Baron 2009), and open source product development (Rowley et al. 2007).

However, responding to customers' willingness to be active participants requires reciprocity from firms. The importance of knowledge as an exchangeable commodity and the need for sharing of resources between firm and customer is central to S-D Logic and value co-creation (Maglio & Spohrer, 2008; Prahalad, 2004; Vargo & Lusch, 2004). Prahalad and Ramaswamy (2004a, 2004b) argue that firms can facilitate customer involvement in the co-creation process through extensive **Dialogue**, granting **Access**, making them share the **Risk**, and providing **Transparency** for their actions (DART). It is through these 'building blocks' (Prahalad & Ramaswamy, 2004a, p. 4) that enable a company to engage more effectively with consumers as co-creators. The DART model challenges firms to break out of traditional roles of firms and customers and provide more meaningful opportunities for customers to

engage as equal partners. in the value co-creation process ‘enabling both joint problem definition and problem solving’ (Prahalad & Ramaswamy, 2004b, p. 9).

The point of departure from the IMP approach is that actors or relationships between certain actors do not exist in isolation, but networks, as configurations of actors carrying out value activities, form the environment the firms are embedded in (e.g., Möller & Halinen 1999, Håkanson & Snehota 1995). Also recent contributions in the S-D logic literature acknowledge that the provider and customer are not the only actors involved, but value co-creation takes place in the context of a unique set of multiple exchange relationships (Lusch et al. 2010, Vargo & Lusch 2010). Each actor contributes to value creation by integrating resources through which they get benefits. Value is therefore the concern of each actor who performs a role in the network, not just the customer (Gummesson & Mele 2010). However, by focusing on customer-perceived value and customer-centricity, mainstream marketing has disregarded the value and satisfaction experienced by suppliers and beyond that, other actors in the service system (Gummesson 2008). Gummesson (2007; 2008) suggests that instead of customer-centricity, the focus should be on creating ‘balanced centricity’; a perspective where the needs and value perceptions of all stakeholders in a service-system are taken into account, instead of maximizing the benefits of one party.

Ramirez (1999) notes that actors hold different roles in relation not only to different counterparts (one is one's suppliers' customer; one's customers' supplier), but also in relation to a single counterpart. For example, one economic actor 'A' may simultaneously be (i) a supplier to another economic actor 'B', (ii) as well as a customer of economic actor 'B', (iii) as well as a competitor of 'B', (iv) as well as a partner with 'B' to coproduce value with and for a third economic actor 'C', and (v) possibly a competitor with 'B's partners, if 'A's own alliance with others competes with 'B's (Ramirez 1999). This example illustrates that value co-creation is not necessarily a dyadic or sequential process, but takes place in a complex system consisting of different relationships that indirectly influence value creation. However, current research on the systemic nature of value co-creation is only just emerging, and the prerequisites of value co-creation, the processes involved in it, and its synergistic effects among other issues are yet to be explored (cf. Vargo et al. 2008, Lusch et al. 2010). Research on these issues would be critical for understanding how to mediate between interests of multiple actors, and to facilitate mutually beneficial value co-creation within service systems.

METHODOLOGY

An embedded case study approach (Halinen & Törnroos 2005) was employed to examine a unique partnership between a public transport provider and community groups who are invited to ‘adopt’ railway stations. The ‘Adopt A Station’ scheme allows community users to utilize unused space within the station free of charge in order to provide services or facility improvements to benefit the wider community. The scheme in Scotland has its roots in the 1990’s in a small group of rail users who successfully lobbied the rail operator to halt plans to reduce staffing hours at their local station, other informal projects emerging thereafter. The official adoption programme was introduced in 2005 and since then over 100 stations (out of a total of 343) have been adopted with schemes including gardening, charity bookshops, cafes and community meeting space. The case represents a service-system where value co-creation occurs within Actor to Actor interactions in the interplay of C-to-C, B-to-C and B-

to-B contexts, involving consumers, members of the community, rail staff and governmental organisations.

The research consists of four station case studies alongside, interviews with stakeholders from the rail operating firm, local government and other public bodies (see Table 1). Initial contact was made with the ScotRail manager responsible for adoption projects and subsequently visits to adopted stations were facilitated. The case studies involved site visits to the stations where actors were able to discuss the projects *in-situ* and be interviewed in more comfortable surroundings. The natural setting and informal approach to the interview meant that in some cases multiple actors were interviewed (either planned or unplanned) as other adopters and rail staff arrived. Other interviews were conducted with actors not directly involved with the scheme to provide an alternative perspective. A total of 14 interviews were undertaken and digital files and notes were subsequently coded, transcribed and analysed using QSR NVivo 8.

Table 1 Informants for the study.

Actor	Role in the “Adopt a station” service-system	Interviewees
First ScotRail	The current franchise holder, a private sector transport firm that operates the rail network	External Relations Manager (JY) Station Manager (FD)
Adopters	Individual citizens or groups who are directly involved in activities at the stations.	Wemyss Bay (NC, PM, PM2) Uddingston (IW, PW, MD) North Berwick (SS) Pitlochry (NM, PM)
Passenger Focus	Public Watchdog concerned with rail passengers	Advisor (JK)
Local community	Local councils who own the land around stations Entrepreneurs who run small businesses in or around the stations. Local Residents	Councillor (AW)
The Railway Heritage Trust	Charitable organisation that is concerned with preservation of historical infrastructure	Chief executive (AS)

FINDINGS

The following section reports the findings of the study. Firstly we identify the complexity of the service-system; the actors who take part and their motivations for engaging. Secondly, we explore the contribution of the various actors to the service-system and the resources that are brought into play to co-create value, and identify the resulting value-in-use experienced by the actors. The final part addresses the factors that facilitate the functionality of the service-system and thereby value co-creation.

OVERVIEW OF ACTORS & MOTIVATIONS

The rail network in Scotland operates under a complex franchise structure. The rail network (track, signalling, infrastructure and maintenance) is owned by 'Network Rail' a private UK wide organisation. Network Rail does not operate any rail services, the franchise for this is granted by 'Transport Scotland', a Scottish government body responsible for the operating of the transport network in Scotland. The current franchise holder is 'First ScotRail', a subsidiary of FirstGroup a large private sector transport firm. Other actors involved include passenger focus (an independent, consumer travel watchdog); The Railway Heritage Trust (charitable organisation concerned with the preservation of historic railway buildings and infrastructure); local councils who own the land around some of the stations and, in some cases have responsibility for buildings on stations; finally the local communities themselves are actors and are involved as either station adopters or by running small businesses within stations. A representation of the service-system is shown in Figure 1.

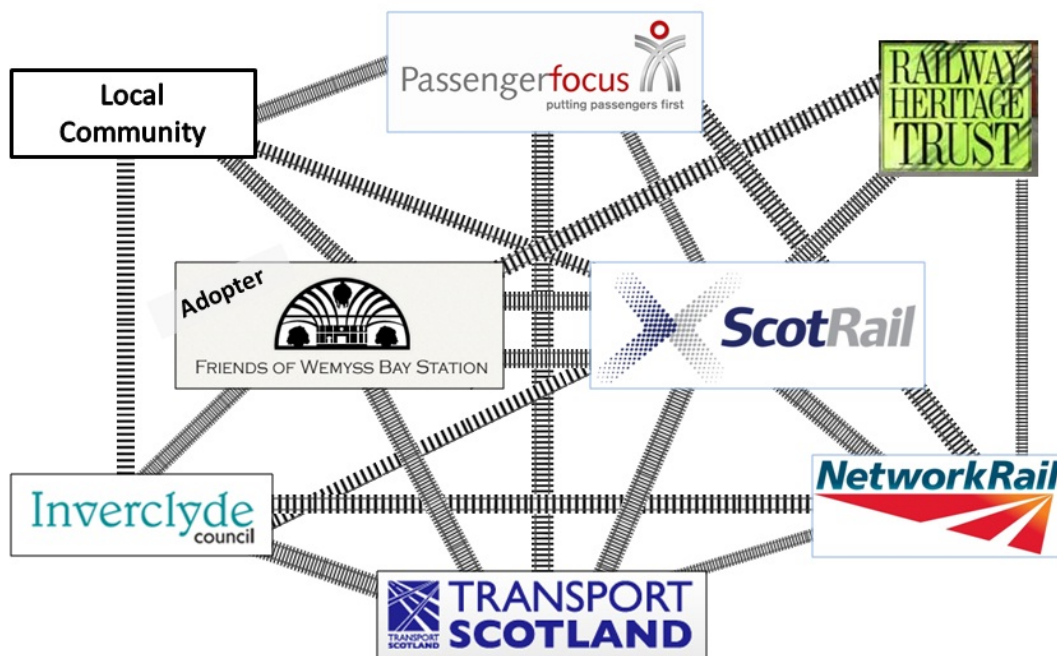


Figure 1 Adopt a Station service system.

Station adoption is a UK phenomenon but within Scotland the emphasis is more on community engagement as opposed to adopters becoming surrogate employees. A ScotRail manager explained that outside of Scotland 'the *emphasis is more on reporting faults*' (JY). For ScotRail adoption represented an opportunity to improve public perceptions:

"At times when there is nothing else happening, no positive stories because cycles of investment have run their course and so on, this is a kind of state of steady advance not related to recessions or electoral cycles or anything, as the word spreads the more people wish to get involved with adoption" (JY).

Although station adopters in Scotland have no formal duties, the presence of the community within the station did serve to improve the environment for rail users; ScotRail operates under a quality control regime which: *“Sets standards for the number of bits of litter that should be lying around and the maintenance of the fabric of the place... ‘Adopt A Station’ is adding value on top of that, giving a personal touch on top of the ‘hygiene factors’”* (JK).

A city councillor with a former role in a large passenger transport company also recognised the benefits of community involvement. He explained that many stations across Scotland contained buildings with listed, historical, status. He described a community project which planned to offer cycle hire at a station near a large city park within a grade A listed building. By allowing a small community business use of the building for a ‘peppercorn rent’ the building became *“protected by occupation”* (AW).

The custodian role of adoption was also recognised by adopters, *“It’s the history [of the station] we are trying to preserve”* (NC). Motivations for other adopters varied but reflected a growing sense of community engagement:

“It’s very post-industrial; these are communities seeking identity in a world where it is no longer generated by the local factory if you like...also people are living longer, and looking for activities to keep them going” (JY).

Other adoption examples include a passenger opening a coffee shop as she was *“fed up with not being able to get a coffee”* (MD) at the station. At another station two community members sold 2nd hand books *‘from a cardboard box in the corner’* (NM) and after ScotRail involvement took over two vacant rooms in the station and have since raised over £20,000 for charities.

RESOURCE INTEGRATION AND RESULTING VALUE-IN-USE

Value co-creation within Adopt A Station occurred within processes of resource contribution and integration involving a range of actors. Some of the actors were merely exchanging resources, i.e. contributing something with the expectancy of certain benefits, whilst others adopted a key role in integrating the versatile resources. The interviews indicate that the provision of resources is motivated by the value-in-use each actor anticipates gaining from involvement in the service-system.

Resource Integration

Although a wide range of actors contribute resources to the service-system, it was evident in the interviews that a key role was played by the adopters. For example, one community group who open a charity bookshop explained:

“The deal, which is a fair one, is that we can use the space but we had to decorate it, we had to clean it out, that’s fair enough...we don’t pay rent and that is a wonderful addition” (NM).

So whilst ScotRail were happy to allow use of space (and ensure the safety of and access to electrics/plumbing etc.) the adopters were charged with upkeep and decoration. Adopters also

liaised with other stakeholders to drive through their own agenda for the station by targeting other service-system actors, securing and integrating the resources they provide:

“The inside of the station is in a dreadful state...that's one of the reasons why we got together in the first place... Network Rail redecorated the front of the building (bits of which were just falling off), which was an embarrassment (very sad)... they also gave us a new ceiling in here ... repainted and re-floored us also and we are in a much better state than we were” (NC).

“Passenger Focus said we were credited with encouraging Network Rail to do the renovations...the Railway heritage trust and network rail agreed funding for the front and the renovations inside are pencilled in for 2012” (NC).

The passion of adopters was a significant factor in the provision of funds for regenerating stations, and allowing ScotRail to recruit other communities into the scheme. For example, two groups of consumers were concerned that particular timetabling changes had resulted in certain trains not stopping at their local station, ScotRail recognised that:

“We had to develop unusually close relationships with those communities because we were in the firing line of email traffic between them and Transport Scotland. We turned that to our advantage by saying to them that, these stations of which they were so proud about and so concerned about, would they like to make them better places - both of them have risen to that challenge” (JY).

The work of the communities within the stations appears to also motivate ScotRail staff to improve station appearance: *“The two chaps [ScotRail staff] at the station are first class; they keep the station spotless” (IW).* Other stakeholders are willing to be involved with the regeneration of the stations but once again it was the passion of the local community, which motivates other stakeholders and ensures the continuation of the projects.

Value-In-Use

Involvement in the Adopt a Station scheme is unlikely to be valued by adopters, however, if the actors involved do not receive adequate value-in-use from their participation. The research has already identified how local government benefits by ensuring that listed buildings are protected by occupation but one councillor identified that adoption fitted into to a much wider agenda to promote rail travel and expand ‘park and ride’ schemes to include retail outlets and other facilities. Value-in-use was also evident for the community groups involved and station adoption gives an opportunity to contribute to community regeneration as identified by ScotRail; *“the operative phrase is putting something back” (JY).*

One adopter acknowledged the strength of support from ScotRail but was astute in recognising that they were *“doing ScotRail quite a lot of favours as well” (NC).* At one adopter group the level of fines that ScotRail received due to failures related to the SQUIR quality control resulted in the chair of the adopters remarking *“we must be able to help you avoid that” (PL).* Other, knock on benefits of the scheme were also identified.

For the firm, community engagement through Adopt A Station resulted in an improved station environment for railway station staff and other passengers:

“An environment which looks uncared for, tends to attract trouble ... stations are notorious for people loitering about...so anything that makes a station look cared for does a lot to calm the background. We know there are something like 15% more journeys that rail passengers would make if they felt more confident about fear of crime and the more stations and trains look cared the more you will attract people on to the system, confident that this is a safe place to travel from” (JK).

The benefits of an improved environment were likened to the notion of ‘broken windows’ the theory that if an environment is respected and cared for then anti-social behaviour and crime is reduced:

“Some people say 'oh I wouldn't do gardening, there's bound to be vandalism...well there is no vandalism...this is a public space which is your space and you have the decency and kindness to take care of it” (JY).

Long term benefits were identified by ScotRail in relation to the involvement of schools in adoption projects through gardening and creating artwork for certain stations. ScotRail’s external relations manager observed that:

“School involvement is about getting them young; a child in railway terms is, a potential customer, employee or vandal depending on how you feel about it” (JY).

One local councillor proposed that Adopted Railway stations better “*reflect the communities where they are located*” (AW), a role recognised by adopters:

“The station is one of the main, entrances to the town; we enter competitions like beautiful Scotland, Britain in bloom and one of the areas where one is marked is the entrance ... but we also look at it from a much wider point of view which is tourism, a welcome to North Berwick” (SS).

In summary, some actors (mainly business) contributed principally operand resources in the form of financial and physical resources but also access to facilities. The community actors and rail operator become in themselves the operand resources that integrate contributions through their drive and passion to make the adopt project a success, these actors also promote the service-system and build relationships with other actors. The value created in the scheme is generated jointly through the relationship and activities of both the firm and the adopters but each group perceives the value phenomenologically according to their own needs and motivations. A summary of actors and their contributions is presented in Table 2.

Table 2 Resources contributed and values experienced by actors involved in the Adopt a Station service system.

Actor	Resources contributed		Value(s) in Use experienced
	Operand	Operant	
Station Adopters	Fundraising	Time/Labour/ Passion / Knowledge /Promotion	Community Awards/Reduction in Anti-Social Behaviour/Recognition /Funding/Improved facilities/ Facilities use
First ScotRail	Funding (operational)/ Equipment/ Access	Access/ Lobbying / Networking /Relationships	Improved environments/better relations with community/indirect benefits for passengers/reduced fines
Network Rail	Funding (Infrastructure/ Renovation)	Labour	Improved perceptions of Network
Transport Scotland	Funding (Grants)		Improved perceptions of Network/Community relationships
Local Council	Funding/Access		Improved environment/potential increase in rail use/Protection of infrastructure
Local Community	Funding		Improved station environments/ Reduction in Anti-Social Behaviour/Community Awards
Passenger Focus		Recognition / Support	Improved station environments/ Reduction in Anti-Social Behaviour
Railway Heritage Trust	Funding (Renovation)		Facility protection

PREREQUISITES FOR NETWORK LEVEL VALUE CO-CREATION

The data indicates that value co-creation in the Adopt A Station service system was dependent on factors that improve functionality for adopters and facilitated value co-creation (summarised in Table 3). Such prerequisites included the provision and nature of access to the service-system; the level of ownership taken by adopters, user empowerment, and, critically, an appropriate level of support from other actors in the system.

The involvement of a wide range of actors was initially made possible by the rail operating network recognising the potential benefits of community involvement and **providing access** to the service-system:

“Sometimes a member of the public saying 'can I use that' has concentrated our minds...do we really need all these rooms?” (JY)

“ScotRail are always keen to hear new ideas for rejuvenating station buildings” (JK).

The level of enthusiasm for engagement with the community is accompanied a desire to facilitate involvement without putting up barriers that might discourage adopters. Whilst all adopters undertake a certain level of safety training and are required to liaise with station staff for the most part adopters recognises that it was “*just a good common sense approach, if there was too much bureaucracy people wouldn't do it*” (SS). To further facilitate access Transport Scotland created the Station Communities Regeneration Fund (SCRF) which allows community groups to apply for funds to support the redevelopment of station areas for small business and community use, ScotRail identified that provision of funds was not necessary but:

“Everybody judge’s Adoption as a heart-warming, not a heart-rending, experience... and the proof of that was the [SCRF] scheme” (JY)

Another key prerequisite was the notion of community adopters **taking ownership** of the project was recognised by one adopter as being “*at the heart of everything*” (SS). An approach by a ScotRail representative to one station made one potential adopter realise that “*this is my environment and I am sick of it looking like this*” (NC). This sense of ownership was recognised and fostered by the rail company who identified local communities as being the one constant feature of a periodically changing ownership and management landscape:

“Ten years ago this would have been a RailTrack station, funded by the ‘strategic rail authority’, with services operated by National Express ScotRail. Now, all those bodies have gone, replaced by Network rail, Transport Scotland and First ScotRail. Chances are in 10 years’ time it will be another set of bodies, the only question then is whose is it? By having community involvement we are making it clear that it [belongs to] the good people who buy the tickets and pay taxes to keep it going....that is the most important message I think” (JY).

Alongside the notion of ownership the **support of secondary actors** was essential to facilitate the resource integration. This included local business support that includes providing plants for gardening or technical assistance such as the setting up of web sites for adopter groups. Other groups identified connections with local government as being important, one adopter felt “*fortunate to have three councillors who come to our meetings who are very supportive of us*” (IW). Another adopter who had opened up a coffee shop in her local station reported how the growing community involvement appeared to encourage other investment “*South Lanarkshire (council) and Strathclyde Passenger Transport were more than happy to invest in extending the car parks*” (MD). More direct support was obtained by one group by setting up the ‘Friends of Wemyss Bay Station:

“We had a public awareness day, we had about 100 people sign up to become friends and that gave us some money (£6000)...it really was surprising, a lot of local support” (NC).

Adopters also benefitted from a certain level of **empowerment** given by the rail operator which enabled them to solve particular problems with company support:

“Last year we had great problems with litter bins, seagulls were going in and spreading the contents, so we contacted ScotRail and arranged to have new bins which are seagull proof and working very well. (SS)

This empowerment was facilitated by frequent communication between adopters and ScotRail’s external relations manager. A high level of trust and engagement between actors developed enabling the swift resolution of issues and providing adopters with a fixed point of contact: *“If I have a problem, I get in touch with (JY) and the problem is solved - that’s a good relationship”* (SS).

The service-system forming around station adoption benefits the rail operator through the provision of good news stories and improved station environments already identified. In some cases, the community users are empowered to become ambassadors by promoting the scheme to a wider audience:

“We go around doing presentations on what we do at the station, so if anyone wants to adopt we go out to them and let them see what it involves and what they might do” (AW).

Involvement in adoption projects gave groups legitimacy enabling them to acquire further support from other actors and external bodies:

“I think it gives you leverage in that you have a relationship with ScotRail, that you are not coming as ‘Mr Angry’ out of left field. You have an established relationship where you can make suggestions (and demands), and you are seen as reasonable people, rather than rabid activists” (NM).

Our findings identify how a community engagement scheme operating within a complex public transport system has created a state akin to that of balanced centrality where multiple actors engage in a range of C2C, B2C and B2B interactions that serve to maintain the service-system and provide value-in-use for all participants. To achieve balanced centrality it was clear that community groups needed a degree of empowerment facilitated by the level of access given by the rail operator and the provision of support and funding from the community and other actors. However, this service-system was dependent on two principal actors (First ScotRail and Adopters) who were central to the scheme and fundamental to its success. Other actors contributed mainly operand resources but still received benefits from involvement.

Table 3. Prerequisites for value co-creation within the Adopt a Station service-system.

Prerequisites	Key actors responsible	Actions and resources contributed	Beneficiaries
Provision/ Nature of Access	<ul style="list-style-type: none"> • First ScotRail • Network Rail • Community Council 	Making space available for adoption use, flexible attitude towards community use.	<ul style="list-style-type: none"> • Adopters • Local Community
Ownership	<ul style="list-style-type: none"> • Adopter • Local Community 	Strong desire for community involvement, established sub-network or group	<ul style="list-style-type: none"> • First ScotRail • Network Rail • Community Council

Support	<ul style="list-style-type: none"> • First ScotRail • Network Rail • Local Community 	Facilitating service system functionality through provision of operand and operant resources (money/expertise)	<ul style="list-style-type: none"> • Adopters • Passengers
User Empowerment	<ul style="list-style-type: none"> • Adopter • Local Community 	Giving community groups a legitimate, acknowledged status. Engaging a wide range of groups (schools etc)	<ul style="list-style-type: none"> • First ScotRail • Network Rail • Local Community

DISCUSSION

“An interesting story is Whitecraigs station which has a nice cottage style building. Peter McKinley, a local project manager was in touch one day making the rather strange request that could he treat Whitecraigs station as an extension of his own garden, we didn't ask what his garden was like we just said yes, if you want to do it. Gary, the guy who works in the booking office said he had tried but it was very difficult on his own....so he has supplied Peter with cuttings from his own garden and now Peter waters while Gary sells tickets” (JY).

It is relationships such as the one described above that are symptomatic of the Adopt A Station scheme where individuals or groups are empowered by First ScotRail to take ownership of their local station and make improvements which benefit an entire network of different actors (cf. Gummesson & Polese 2009). The scheme is evidence of a spontaneous, organic emergence of a complex, dynamic “actor-to-actor” value co-creation system that represents service-for-service provision that typifies S-D logic (Vargo & Lusch 2011). Our research reveals how firms can embed activities within a service-system where a configuration of actors carry out value activities by integrating and accessing resources (Harrison & Håkansson, 2006; Gadde & Håkansson, 2008) (Möller & Halinen 1999, e.g., Håkanson & Snehota 1995).

As a service-system Adopt A Station represents a state akin to ‘balanced centrality’ (Gummesson 2007) where actors are “loosely coupled” (Lusch et al. 2010, p. 20) through institutions and technology and value is co-created through the provision of both operand and operant resources. Crucially, the eco-system supports a mutually beneficial environment where the provision of operand resources by even peripheral actors is still reciprocated with value benefits. Of particular importance is the central role played by the station adopters who act as principal resource integrators highlighting the consumer role as active formulators and coordinators of value as opposed to passive recipients (Ostrom et al. 2010, Prahalad & Ramaswamy 2000, Prahalad & Ramaswamy 2004, Ramirez 1999, Hoyer et al. 2010).

The IMP literature highlights that network actors can offer access to external resources, but they also expect something in return (Ford 2010). Our research indicates how balanced centrality is typified by exchanges where resources are offered in anticipation of reciprocity (Vargo & Lusch 2008a) and a range of both financial and non-financial benefits were experienced by actors within the network. For each actor, value was determined phenomenologically within each the user’s context via the application of resources gained

through exchange and interaction (Normann & Ramirez 1993, Vargo & Lusch 2008a, Grönroos 2008). For example: involvement in adoption benefits community actors through the ability to take ‘ownership’ of an important community gateway, acting as custodians of important buildings and gaining award recognition for the community and also by participation, itself providing an outlet for active community members. Passengers and the wider community benefit through an improved environment reducing the stress of commuting and providing enhanced service provision; and the rail operator benefits with a reduction in fear of crime, increased passenger journeys, reduced fines relating to station appearance and a reduction in anti-social behaviour around stations. This highlights the benefits of actors (and networks of actors) striving to co-create value proposition whereby the resultant value is of greater use to wider groups (Wikström, 1996).

Within this service-system the access to physical, financial and firm operand resources made available to community users was crucial for functionality. This enabled the empowerment of adopters who were subsequently able to integrate and transform a range of resources to co-create value (Lusch & Vargo 2006). But, crucially this was dependent on the level of ownership that community actors took of service-system activities. This has significant implications for our understanding of network level value co-creation and the achievement of balanced centrality in that consumer actors have a central role and this must be reflected in their level of commitment to the endeavor. So although value is of concern to all actors within the network (Gummesson & Mele 2010) it will often be one actor who acts as a principle resource integrator and drives the creation of value for other actors who take a more passive role by contributing operand resources..

Figure 2 illustrates how balanced centrality is achieved within a service-system. Our research suggests that this state requires a strong mutually beneficial ‘co-created’ relationship between *primary* actors (there could be more than two but we attempt parsimony in our model). This relationship could be B2B or B2C but is likely to require actors to grant access or give empowerment to one or more actors. Our theme of ownership (of aspects of the relationship) will also be important. Once this relationship is established, the exchange of operand and operand resources (and benefits) will motivate other actors to contribute to the service-system. Whilst the contribution of these *secondary* actors is likely to be limited to the provision of mainly operand resources each secondary actors will receive benefits from involvement.

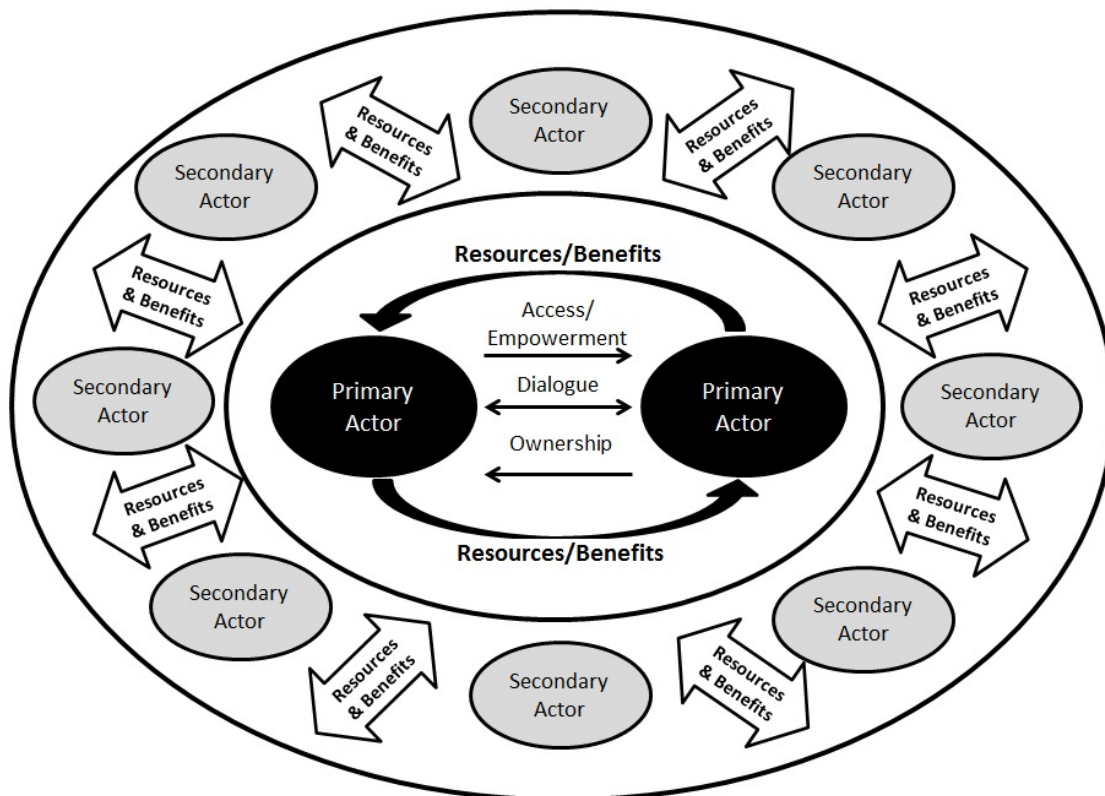


Figure 2 Balanced Centricity in a Service System.

IMPLICATIONS

This study suggests that understanding value-in-use from the perspective of different actors is crucial to organizing a well-functioning service system. This project serves to demonstrate the potential benefits of creating balanced centricity and indicates the sacrifices and investment required to achieve this. An important managerial implication is the wide ranging benefits that have been achieved by giving customers extensive access to the firm. In our study the adopters were empowered to take ownership of their projects at stations and supported in their efforts by the rail operator when lobbying for funding from other agencies. This underscores the importance of the dialogue and access factors when engaging in service-system level and other co-created relationships. The access given to adopters along with extensive dialogue has enabled these relationships to flourish. It is through this central relationship between First ScotRail and the various adoption projects that other actors are added to the service-system, sometimes deliberately but other times in a more organic way. The more peripheral actors contribute resources and gain direct or indirect benefits from participation.

Despite the somewhat unique nature of this case there is evidence in the UK of voluntary and charitable groups being given access to premises by local councils and businesses particularly during a period of economic downturn where a lack of use may lead to lack of care and eventually deprivation. On an international level many firms (e.g. Starbucks, IKEA) recognize the importance of community engagement. Our study indicates that firms should explore the potential for engaging versatile stakeholders and their networks of relationships

around a common cause and make use of organically emerging systems providing opportunities for service-for-service exchanges motivated by different value expectations and experiences. Firms that are prepared to engage with a range of actors beyond their traditional dyadic relationship with customers and suppliers may find that they quickly reap the benefits of providing others more open access to their value network.

LIMITATIONS & FUTURE RESEARCH

The research presented here represents one context where balanced centrality has been achieved through the strong relationship built between a firm and community groups. However, case studies are widely understood as difficult to generalize from (Yin 2003) and, as such, studies in other contexts would aid understanding of how value co-creation at a service-system level can benefit actors, the prerequisites required and the extent to which balanced centrality is achieved. For example, the changes of mindset needed by organizations need to be further understood.

Our research illustrates a service-system where all actors identified (primary and secondary) contribute resources and receive benefit from involvement. The study, as yet, has not identified actors who choose not to participate or who have dropped out for any reason. The network in question operates within a limited competitive context (ScotRail having a near monopoly on rail services in Scotland) therefore research assessing balanced centrality within more competitive or turbulent markets is essential.

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