Working with 'The Passionate Few': the Indirect Benefits of *Actor Engagement* in *Mundane Service* Settings

By Matthew Alexander*, Katharina Kils

The engagement concept has grown in importance in recent years with firms recognizing and seeking to leverage the latent potential within their customers and finding innovative ways to engage them. However, engagement has, to date, been explored within high contact service settings where benefits are largely dyadic (between firm and customer) or shared (within the customer community). This study contributes to literature on engagement by assessing the potential for engagement in low contact settings, between a firm and minority customer groups to have positive indirect effects on other 'unengaged' customers. To do so, we use multi-level modeling within a public transport setting where a firm has invited local community members to 'adopt' their local railway stations. We propose that neither a small number of passionate customers, nor low contact, 'mundane' service settings, should be an impediment to firms benefiting from engagement.

1. Introduction

Continuous innovations within the marketplace and fundamental changes in our perspectives of customers captured by new dominant logics for marketing (e.g. Service-Dominant Logic Vargo & Lusch, 2016) suggest that organizations need to adapt and develop the ways in which they elicit value from customers (Macdonald et al., 2011; Ostrom et al., 2021). In recent years the role of the customer has evolved from a passive recipient of goods and services to a proactive collaborator in the activities of an organization, a phenomenon often conceptualized as engagement (Alexander et al., 2018; Jaakkola et al., 2018; Ng et al., 2020).

Empirical work on engagement has tended to explore the phenomena within high profile brands, social media settings (de Oliveira Santini et al., 2020; Ng et al., 2020) or dedicated brand communities (Azer & Alexander, 2018; Azer & Alexander, 2020; Breidbach & Brodie, 2017; Dessart et al., 2015) with research in more mundane settings less common. Some authors suggest that intense engagement activity is typically restricted to the most passionate or highly active customers (Baron & Warnaby, 2011; Libai, 2011) where benefits are largely dyadic (between firm and customer) or shared (within the customer community). The effects of ceding control to this 'passionate few' on a more dispassionate or disinterested majority are, as yet, untested. Given, potentially small numbers of customers involved and associated costs, any return on engagement must extend beyond dyadic or community benefits to include unengaged customers for the strategy to be financially viable, indeed existing research suggests the opposite is often the case (Beckers et al., 2018). Therefore, it is vital that the indirect benefits of engagement activity on customers who are not involved are empirically tested.

We use generalized exchange theory alongside engagement literature as our theoretical foundation to explore this gap with an empirical study which assesses the impact of community engagement administered by a franchisee rail company, a scheme called 'Adopt A Station', where local community actors (hereafter referred to as adopters) are invited in to their local railway station and are able, in partnership with the firm, to customize stations according to the needs of the community (Hamilton & Alexander, 2013; Jaakkola & Alexander, 2014). We assess how attributes at the level of the station might impact on other customers and find that engagement between the firm and 'passionate' groups of community actors has a positive indirect effect on other passengers



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represented by increased satisfaction and loyalty. We contribute to the growing body of research on engagement by exploring the relationship between engaging with small numbers of passionate actors in low contact settings and the indirect benefits received by other, unengaged, customers. This contribution has two facets, firstly investigating the utility of engagement strategies in low contact or mundane settings; and secondly the potential for engagement strategies to have an indirect effect which ripples to customers not directly involved. This is despite our increasing understanding of the networked effects of engagement in service systems (Jaakkola & Alexander, 2014) and the potential for ripple or market effects at even broader systemic levels (Alexander et al., 2018; Fehrer et al., 2020). The paper concludes by considering the main theoretical and managerial implications alongside implications for future research.

2. Theoretical Background

2.1 Direct, Indirect and Systemic Effects of Engagement

The concept of engagement emerged around 2009 from two distinct (but analogous) roots. Initially, engagement is viewed as a concept with roots in relationship marketing but transcending standard views of customer loyalty (Bowden, 2009). Here engagement captures activities customers undertake beyond transactions such as word of mouth or reviews (van Doorn et al., 2010) and can assist an organization maximize its contributions from customers (Kumar et al., 2010). In parallel, research emerges positioning engagement as a mid-range theoretical concept that links the meta theoretical service-dominant logic (Vargo & Lusch, 2016) with empirical research. This research captures the networked aspects of engagement and articulates critical foundational principles (Brodie et al., 2019; Brodie et al., 2011)[1]. Actor engagement evolves from a narrower focus on the activities customers undertake with focal brands to a more systemic concept encompassing a wider array of actors. We align with this broader view of actor engagement with the following definition of "a dynamic and iterative process that reflects actors' dispositions to invest resources in their interactions with other connected actors in a service system" (Brodie et al., 2019, p. 174).

Empirical evidence of engagement is growing with, in particular, a recent meta-analysis on customer engagement in social media seeing engagement associated with satisfactory experiences, positive emotions and trust (de Oliveira Santini et al., 2020). The study also revealed positive downstream effects on firm performance, behavioral intention, and word of mouth (ibid). In addition, the study notes stronger effects in hedonic, as opposed to utilitarian settings, a finding aligned with other similar studies (de Oliveira Santini et al., 2020; Fehrer et al., 2018).

Thus, outside of hedonic settings, an engagement strategy may seem unwise, particularly when some research indicates that even social media engagement strategies may actually negatively affect shareholder value (Beckers et al., 2018). However, there is research that indicates a positive relationship between engagement and value co-creation within service systems associated with the actions of highly engaged community members (Jaakkola & Alexander, 2014). Through an in-depth case study, Jaakkola and Alexander (2014) reveal how engagement behavior (behavioral manifestations of engagement) affects value co-creation at a systemic level through diverse resource investments towards the focal firm made by specific actors that either modify or augment the offering or affect other stakeholders' attitudes and behaviors towards the firm. Thus, Jaakkola and Alexander (2014, p.257) show how engagement behaviors 'make value co-creation a system-level process'. The authors encourage future research on how these passionate actors' 'mediation' role might affect an organization's B2C relationships.

We respond to this question by exploring the impacts of engagement activity in a low contact service setting on customers who are not involved in the engagement activity. To conceptualize such indirect reciprocity, we use generalized exchange theory as a framework.

2.2 Generalized Exchange Theory

Generalized exchange provides a complementary interpretation of social exchange theory (Ekeh, 1974) which involves a chain of indirect, univocal and reciprocal transfers among multiple actors (Marshall, 1998). In generalized exchange actor A provides value to actor B who provides value to actor C who provides value to actor A and is represented as A→B→C→A. In generalized exchange, social actors form a system in which each actor gives to another but receives from someone other than to whom he gave.

Reference to generalized exchange may be important when the parties involved in the exchange are not necessarily direct recipients of the goods or services and benefits may often be based around 'enhancements to the 'common good', improvements to overall 'quality of life' in the community, civic duty, altruism, personal pride, or community belonging' (Marshall, 1998, p. 275). Both

1 For a detailed account of engagement research development see Jaakkola, E., Conduit, J., & Fehrer, J. (2018). Tracking the Evolution of Engagement Research: Illustration of Midrange Theory in the Service Dominant Paradigm. In S. L. Vargo & R. F. Lusch (Eds.), *The SAGE Handbook of Service-Dominant Logic* (pp. 580-598). SAGE.

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Ekeh (1974) and Bagozzi (1975) identify overlap between generalized and restricted forms of exchange and so recipients may operate in an exchange situation which shares both restricted and generalized elements and may be influenced more by experiences with the organization than direct utilitarian benefits (Marshall, 1998). Within marketing-related contexts generalized exchange theory has been used to explore parental attitudes towards education providers (Marshall, 1998), how franchise manager behavior can impact customer satisfaction without direct interaction (Evanschitzky et al., 2011) and role of corporate social responsibility (CSR) in shaping frontline employees' customer orientation (Hu et al., 2020).

The desirability of engagement and the potential for positive outcomes for firms needs to be considered in the context of the firm and its customers' willingness to engage. If engagement activity in utilitarian situations is limited to the passionate few then consideration should be given to the possibility of indirect benefits being received by other, unengaged, customers. Generalized exchange theory allows consideration of how a firm (A) could provide community actors (B) access to the firm which, in turn, improves experiences of the firm not only for B but also for other, unengaged[2], customers (C) who in return offer more favorable attitudes towards the firm (A). Figure 1 outlines the conceptual model and specification which will be discussed in the following section: the model uses well established conceptual links between service performance, satisfaction and loyalty to understand the potential for the indirect effect of engagement activity.

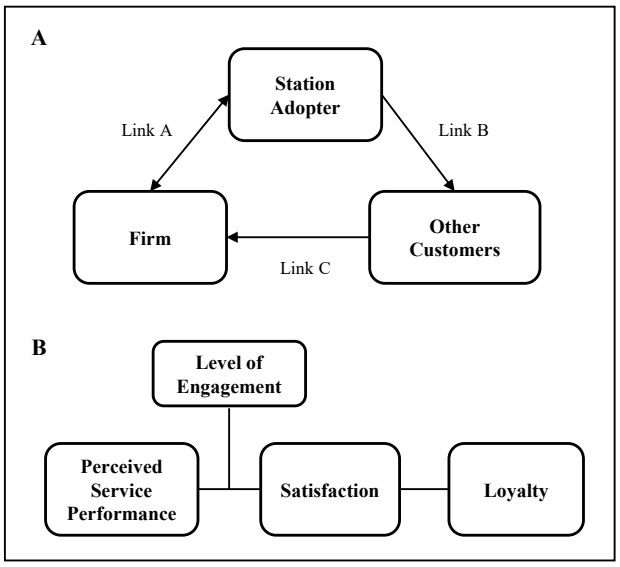

Fig. 1: A: A generalized exchange model of the firm, adopter and other customer. B: Model Specification

3. Conceptual Model and Hypotheses

3.1 The Performance-Satisfaction-Loyalty Chain

Research into the service encounter (Bitner et al., 1990) and the service profit chain (Heskett et al., 1994; Heskett et al., 1997; Loveman, 1998) suggest a chain relationship between service performance (or service quality), customer satisfaction and loyalty. These links are, by and large well understood and accepted (see Homburg et al., 2009), and various meta-analysis (see Brown and Lam, 2008; Hogreve et al., 2017) presents broad support for the relationship between service quality and customer satisfaction despite evidence that the links can differ across industry contexts and encounter versus relationship services. The use of performance perceptions as indicators of service quality is supported within the extant literature (Cronin Jr et al., 2000) and performance measures form the core of service quality scales (eg.Parasuraman et al., 1994; Zeithaml et al., 1996). Service performance can be related to both tangible (i.e. setting) and intangible (i.e. employee) elements of the service (Carrillat et al., 2007).

There is also plentiful evidence over the link between customer satisfaction and loyalty (Johnson et al., 2006; LaBarbera & Mazursky, 1983; Oliver & Swan, 1989) and despite some variation the relationship between satisfaction and loyalty is largely evolutionary (Oliver, 1997, 1999). In line with the broad level of consensus on these relationships we assume these well-known main effects (for unengaged customers (C)) to then test how they are potentially moderated:

H1: Perceived service performance will positively affect satisfaction with a firm (A).

H2: Satisfaction with a firm (A) will positively affect customer (C) loyalty.

3.2 Indirect Effects of Engagement

As outlined earlier in the paper, the systemic effects of engagement have been identified but their indirect effects on other 'unengaged' customers have yet to be established. However, improvements to the customer experience could, via generalized exchange, benefit 'unengaged' customers.

A key benefit of closer engagement with customers is a source of generative knowledge through resources including creativity and knowledge stores (Harmeling et al., 2017). Essentially by collaborating more closely firms are able to better meet customer needs by harnessing the skills and knowledge residing in the customer (Jaworski & Kohli, 2006). In this creative environment the

2 We use unengaged to refer to any station user not directly involved in the adoption activity.

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firm adopts a facilitatory role supporting and serving customers (Gummesson & Mele, 2010; Payne et al., 2008). By facilitating customer engagement both firm and customer can benefit from improved predictability and quality in the exchange leading to cognitive and affective benefits for the wider body of customers (Dong et al., 2008; Evans et al., 2008).

Thus, engagement may serve to facilitate improvements to the customer experience (Ramaswamy, 2011) which are supported by the firm but driven by customers or other engaged actors (Alexander et al., 2018; Jaakkola & Alexander, 2014). Importantly, experiential improvements are not limited to traditional dyadic interactions between firms and customers but shared via networks of actors thus allowing benefits to be experienced more widely (Alexander et al., 2018). This open process reinforces the multi-directional nature of engagement benefits resulting from a process focused on value creation for the broader commons (Ballantyne & Varey, 2006).

Generalized exchange theory is focused on the generation of indirect benefits. We argue that value cocreation achieved through a firm's (A) increased engagement with a minority group of cocreating customers (B) can result in measurable benefits for the majority of unengaged (C) including those who have little or no interest in the cocreated process. As a result we predict that:

H3: The satisfaction of unengaged customers (C) will be positively affected by the level of engagement (between the firm [A] and the engaged actor(s) [B]).

In summary, our conceptual model hypothesizes that the satisfaction with perceived service performance of customers who are not involved in cocreation activity (unengaged [C]) will be indirectly affected by the extent of engagement between a firm (A) and minority groups of actors (B). The following section details the research context, data collection, measures and analytical procedures.

4. Method

4.1 Research Context & Data Collection

The context for this research is a community engagement scheme called 'Adopt a Station' administered by ScotRail, the principal operator of the rail network and infrastructure in Scotland. The scheme allows communities to utilize unused space within their local railway station free of charge in order to provide services or facility improvements to benefit the wider community. The scheme was introduced in 2005 and to date over 250 stations (from a total of 343) have been adopted with schemes including gardening, charity bookshops, cafes and community meeting spaces. The scheme represents suitable setting to empirically test the extent to which engaging with a small group of passionate individuals can positively impact on a wider group of customers who potentially have little interest in cocreating with the firm beyond that needed to enable day to day travel.

The study included multiple site visits to adopted and non-adopted stations alongside interviews with ScotRail personnel, community 'adopters' and other key informants which were used to inform the research. The interviews and site visits gave a depth of insight into the case and outlined how the indirect benefits could be measured. The scheme has multiple beneficial outcomes which have previously been the subject of published empirical papers. These include benefits related to tourism (Hamilton & Alexander, 2013), place making and hedonic value (Alexander & Hamilton, 2015) and heritage marketing (Alexander & Hamilton, 2016) alongside the systemic impacts on value co-creation highlighted earlier (Jaakkola & Alexander, 2014). A range of benefits are reported in these papers for the firm (e.g. improved working environments, better relations with the community, improved quality assurance scores), adopters (e.g. sense of ownership and belonging, recognition through awards, reduction in anti-social behavior) and the wider community (e.g. improved station facilities, de-stressed environment, improved safety perceptions); significantly these appeared to be received both directly (to firm and adopters) but also indirectly (to other passengers and the wider community). For our study we used data from three main sources including:

- Survey Data (perceived service performance, satisfaction, loyalty, inertia) from rail commuters not actively involved in any engagement activity (the indirect beneficiaries of the cocreation activity (C)). These commuters were matched to the railway station where they start their journey;
- Station Engagement to capture the extent of engagement between firm (A) and adopter(s) (B) measured using expert ratings and;
- Objective interaction-level data on each station (facilities, journey variables, and socio-economic data).

Given our public transport (rail) context surveying commuters had the advantage of consistent travel from the same station (essential for nested data sets); a sample who would all travel to work within a roughly defined period for ease of data collection; finally, commuters represented a homogeneous sample from which to draw conclusions. Agreement was obtained from the firm to conduct the research and they supported the study by funding travel and granting permission for researchers to collect data at stations.

For an effective assessment of any indirect impact of cocreation it was necessary to select a sample of stations that represented both adopted and non-adopted stations.

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To satisfy the needs of the HLM study the sample size at the macro (higher) level should ideally be >50 (Maas & Hox, 2005; Wieseke et al., 2008) A purposive sampling approach was used to select a sample of 60 railway stations from the suburban rail network around Glasgow. Routes were selected to ensure an even mix of stations which were (*n*=23) and were not (*n*=37) adopted. Surveys were distributed on the station platform and then either collected at the time or posted back using a supplied prepaid envelope. The final number of surveys distributed was 2,098 and 1,385 were returned (a response rate of 67%). Two stations (both non-adopted) with only 2 responses each were removed given a final 1,381 at 58 stations. Of these respondents, 51.7% were male and 47.1% female and the average age of the sample was 38.7 years. The survey indicated that 95% of respondents usually started their journey from the same station and travel frequency indicated 79% of the sample travelled on the same route 4 or 5 days a week indicating validity of level 1 nested data. Further descriptive statistics for this sample are shown in table 1. The measures used for the commuter survey (termed level 1) and the station (we term interaction level data) assessment are introduced in the following sections.

4.2 Measures

4.2.1 Commuter survey (Level 1).

To measure our constructs, we utilized scales from the literature adapted to the specific context of this study. All items are shown in Appendix 1 and descriptive statistics can be found in table 1.

	N	Mean	SD	Minimum	Maximum
Passenger Age	1288	38.79	15.532	18	77
Proximity to Station (miles)	1368	2.34	4.806	.01	60
Travel Time to Station (minutes)	1381	9.62	8.604	.50	90
Travel Frequency (days per week)		**1**	**2**	**3**	**4**	**5+**
	1381	8.7%	3.6%	8.5%	8.5%	70.2%
		Yes	**No**			
Normal Departure Station	1381	94.5%	5.4%			
		0-24	**25-49**	**50-74**	**75-99**	**100+**
Annual Income (£, 000's)	1247	17.5%	36.9%	23.5%	8%	4.3%

Tab. 1: Commuter Survey Descriptive Statistics

The dependent variable at level 1 is station satisfaction (*SS*). The construct was measured with five items, adapted from a suitable service dimension satisfaction scale[3] (Chezy & Simonson, 2001). For H2 we used a three-item word-of-mouth (WOM) scale (Zeithaml et al., 1996) as our loyalty measure.

As predicted in H1, we expect service performance to influence station satisfaction. To measure perceived service performance in our public transport context we consulted a range of transport specific literature where the role of (commuter) stress, enjoyment and perceived personal safety are well documented (eg. Carr & Spring, 1993; Cozens et al., 2004; Evans et al., 2002; Kluger, 1998; Novaco et al., 1991; Novaco et al., 1990). We used six items from two studies (Evans et al., 2002; Kluger, 1998) to measure commuter stress (*CS)*, six further items from Kluger (1998) to measure commuter enjoyment *(CE)* and a three item perceived passenger safety (*PS*) scale adapted from one used by a UK rail passenger watchdog (Passenger-Focus, 2009). Missing values were imputed using the regression method of imputation for missing completely at random data and EM methods for non-random data (Hair et al., 2010). A confirmatory factor analysis was conducted on the data to ensure construct and discriminant validity and established heuristics (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hair et al., 2010) indicate good validity and reliability (see table 2 and 3). Scale means were then created in preparation for the hierarchical linear model.

	Consumer Enjoyment	Station Satisfaction	Safety	Word of Mouth	Consumer Stress
Consumer Enjoyment	**0.57***				
Station Satisfaction	0.10	**0.64**			
Safety	0.21	0.15	**0.72**		
Word of Mouth	0.31	0.23	0.37	**0.88**	
Consumer Stress	0.48	0.14	0.34	0.45	**0.59**
Max shared correlation[2]	0.48	0.23	0.37	0.45	0.48

***AVE scores on diagonal**

Tab. 2: Commuter Survey Variables – CFA Data

3 Given that many of the stations were unmanned we removed two variables relating to service employees.

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CONSTRUCT	N	M	SD	α	CR
Commuter Stress	1381	5.19	1.05	.85	0.85
Commuter Enjoyment	1381	3.19	1.25	.86	0.84
Safety	1381	5.43	1.04	.88	0.88
Station Satisfaction	1381	4.61	1.19	.89	0.90
Word of Mouth	1381	4.66	1.27	.95	0.96

Table 3: Psychometric Properties of Measures at Level 1

At level 1 we used various measures to control for commuter travel behavior such as normal departure station, travel frequency, and ticket type. We also asked questions on how far the respondent lived from the station, how long it took to travel to the station and the travel method used. These questions allowed us to control for other extraneous factors directly affecting our dependent variable, station satisfaction. In line with other similar studies, we group mean centered all variables before inclusion in the HLM (Hox, 1995; Raudenbush & Bryk, 2002; Raudenbush et al., 2004).

4.2.2 Interaction level data (Level 2).

In line with the objectives of our study the principle aim at level 2 was to establish an engagement rating (ER) for each station. This was achieved by using six independent raters to assess each station against seven criteria. The seven criteria were developed based on the case study research of the scheme. Raters were asked to assess: the extent of gardening activity; the extent of facilities by the community; the extent to which the appearance of the station had been customized; evidence of interaction between firm and community; the extent to which the community provided information about the adoption; finally, a subjective judgment over the relationship between the firm and community and an overall engagement rating. Each item was measured through a subjective 7-point Likert scale.

To evaluate the consistency of the ratings we tested for interrater agreement (James et al., 1984, 1993). Scores ranged from 0.73 – 1.00, which represents very high levels of agreement between raters (LeBreton & Senter, 2008). As discussed above each station had six subjective measures and 1 overall value cocreation measure. To test the robustness of these six measures a factor analysis indicated a one factor solution (80% of variance extracted). The six dimensions were then regressed on the overall cocreation variable. The results show that the indicators account for a large proportion of the global score (*adjusted R2* = 0.93, p<.01), the aggregated measure was therefore taken as a strong representation of the extent of engagement at the interaction level.

Also, at level 2 we controlled for station facilities (*SF*) that were provided by the firm. This was achieved using objective data from the firm's webpage's summated into an overall 'facilities' score. We also controlled for any effects from the passenger's journey *(JE)* using a combination of peak ticket fare and average journey time (using objective data), alongside aggregated level 1 survey items (distance from station, journey time to station). The measures were standardized using Z scores and an exploratory factor analysis revealed a one factor solution (67% of variance extracted) and the items were aggregated into a 'journey' construct.

To control for possible socioeconomic effects (*SE*) on the data we used objective data gathered from 'Scottish Neighborhood Statistics' (SNS, 2010) generated using the station zip code. A combination of measures which addressed local taxation, home ownership %, income deprivation and average house price were used. Once again items were standardized using Z scores; an exploratory factor analysis revealed a one factor solution (86% of total variance) and the items were aggregated into the 'socioeconomic' construct. Finally, the effects of inertia (*IN*) were also aggregated at the interaction level (the construct measured at level-1 using a 3-item scale by Narayandas (1997) see appendix 1). Descriptive statistics for level 2 variables are shown in table 4.

CONSTRUCT	N	M	SD	Min	Max
Station Engagement	58	1.99	1.14	1.00	5.83
Journey	58	.00	.81	-2.32	1.28
Inertia	58	4.61	.39	3.52	5.61
Facilities	58	3.40	2.20	1.00	7.00
Socio-Economic	58	.00	.92	-1.72	1.54

Tab. 4: Descriptive Statistics: Interaction Level Variables

4.3 Hierarchical Model

Based on the theoretical arguments and resulting hypotheses presented above, the hierarchical model for the study can be expressed as follows:

Level 1 Model

$$SS = \beta_0 + \beta_1(CS) + \beta_2(CE) + \beta_2(PS) + r$$

Level 2 Model

$$\beta_0 = \gamma_{00} + \gamma_1(ER) + \gamma_2(SF) + \gamma_3(SE) + \gamma_4(IN) + \gamma_5(JN) + u_0$$

β_i = Level-1 coefficients

SS = Station Satisfaction

CS = Commuter Stress

CE = Commuter Enjoyment

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PS = Personal Safety

r = level-1 random effect

γ_i = Level-2 coefficients

ER = Engagement Rating

SF = Station Facilities

SE = Socio-Economic effects

IN = Inertia

JN = Journey Effects

u_0 = level-2 random effect

The final conceptual model incorporating the level 1 and 2 variables is shown in figure 2.

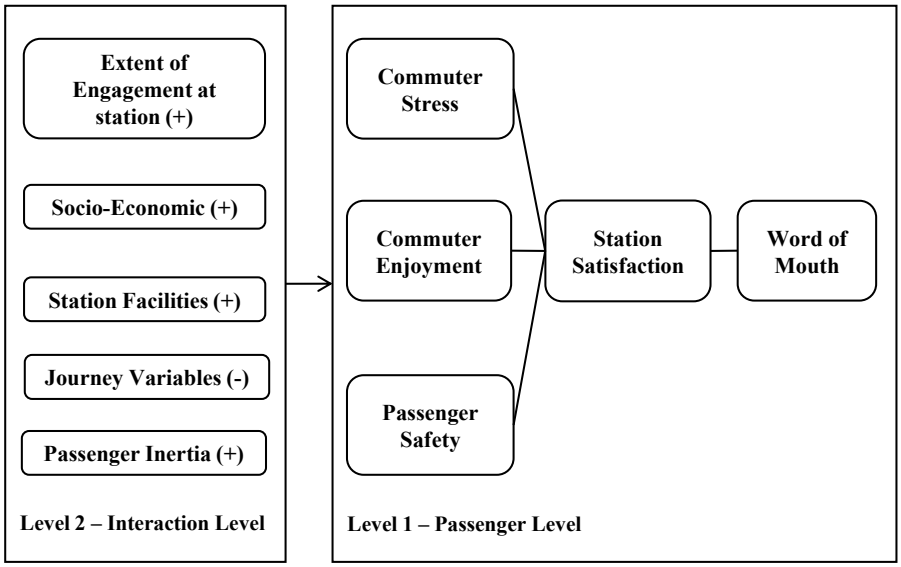

Fig. 2: Final Conceptual Model for HLM study

5. Results

5.1 Main Analysis

To create the hierarchical models the HLM6 program was used (Raudenbush & Bryk, 2002). Multilevel models are dependent on variables being assigned explicitly to the correct level and that files can be connected through a grouping criterion (Hox, 1995; Evanschitzky and Backhaus, 2015). In this case the grouping criterion was the station and we prepared two files (commuter survey and interaction level data) with the former 1,381 responses 'nested' into the latter 58.

Prior to estimating any model parameters, the extent of the variance between the 58 stations should be established as substantial enough to warrant a multilevel approach. This involves measuring both the intra-class correlation (ICC) of an unrestricted level 1 model, and furthermore, to estimate the need for multi-level analysis, a design effect (DEFF) (Muthen & Satorra, 1995) can be used to assess the extent to which the model deviates from normal notions of independence. A DEFF >2 (Muthen & Satorra, 1995) suggests a multi-level approach is warranted. DEFF is calculated as follows:

$$DEFF = 1 + \delta\,(n - 1)$$

With δ being the intra class correlation, and n the average class size. We calculated the ICC and DEFF in our model using "satisfaction" as dependent variable in a null model. The DEFF = 7.25 and ICC = 0.274 means that 72.6% of the variation of the dependent variable satisfaction lies at the level of the commuter and 27.4% is between the 58 stations. As such, the variation in satisfaction is deemed appropriate to continue with the HLM (Muthen & Satorra, 1995).

The model assessed the effect of level 2 variables on the satisfaction part of the model. This involved three independent variables (commuter stress [CS], commuter enjoyment [CE], passenger safety [PS]) and the dependent variable of station satisfaction [SS]. The base HLM model for level 1 shows that, from the variance extracted, most (0.342) was attributable to the variation of the intercepts between stations ($p < .001$), variation in the three slopes were non-significant. The two-level model was therefore restricted to a random intercept model. In other words only the changes in the intercepts of the regression equations between the stations were modeled and not any change in the slopes between the stations (Hox, 1995).

The results of this two-level model are shown in table 5. These show that as the passenger level SS is influenced by CS, CE and PS and confirming H1 that service performance positively affects station satisfaction. Furthermore, and in line with the extant literature satisfaction significantly impacts on our WoM construct (Adj $R2 = 0.20$, $F = 346.686$, $p < 0.001$) confirming H2.

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Predictor	Standardized Coefficient	t-ratio	*p*-value
Level 1 (dependent variable is Satisfaction)			
Commuter Stress (CS)	0.121	3.930	0.000
Commuter Enjoyment (CE)	0.126	3.921	0.000
Passenger Safety (PS)	0.224	7.623	0.000
Level 1 (dependent variable is Word of Mouth)			
Satisfaction (SS)	0.520	15.190	0.000
Level 2 (dependent variable is the intercept β_0)			
Engagement Rating (ER)	0.248	3.764	0.001
Station Facilities (SF)	0.162	2.492	0.016
Socio Economic Scale (SE)	0.094	1.993	0.051
Inertia (IN)	0.222	5.131	0.000
Journey Variable (JN)	-0.254	-3.619	0.001

Tab. 5: HLM Model Satisfaction

More importantly, the level 2 model indicated that the intercept of the regression was significantly influenced by the engagement rating (ER) (γ = 0.248, p< 0.001) at the interaction level fully supporting H3. This is the key outcome of the research as it indicates that engagement in this case with a passionate customer community appears to spill over into the experience of unengaged customers who receive the benefit indirectly and offer improved satisfaction back to the firm.

With regard to other level 2 variables there were also highly significant effects for the journey variable (JN) and a significant effect for station facilities (SF) and inertia (IN). The co-variable (SE) had a marginally significant effect. Based on these results, the overall station satisfaction can be estimated as follows:

$$SS = \beta_0 + 0.121 \text{ X } (CS) + 0.126 \text{ X } (CE) + 0.224 \text{ X } (PS) + r\ (Level\ 1)$$

$$\beta_0 4.478 + 0.248 \text{ X } (ER) + 0.162 \text{ X } (SF) + 0.094 \text{ X } (SE) + 0.222 \text{ X } (IN) - 0.254 \text{ X } (JN) + u_0\ (Level\ 2\ Intercept)$$

To further test the indirect relationship the engagement rating for each station was correlated with station satisfaction (aggregated for each station). The result reveals a significant correlation of r = 0.446 (p < 0.01), slightly below what Cohen (1992) calls a strong relationship.

However, despite these clear benefits, there was evidence from the survey that further improvements to the scheme could be made. The survey included a question about whether or not customers were aware if their station was adopted with more than 75% of respondents checked the 'don't know option'. For the remaining respondents, an independent *t*-test was used to test the difference in mean scores for the WoM construct between the customers who ticked no and those who checked yes. The results indicate a significant difference in the mean values for both station satisfaction (*Myes = 5.01*, *Mno* = 4.25, t = 5.28, p <0.01) and WOM (*Myes* = 4.74, *Mno* = 4.41, t = 2.202, p <0.05), suggesting that increasing customer awareness of community engagement would be an important step for the firm in the future to further increase the benefits gained.

The following section will discuss the theoretical implications of these results on our understanding of cocreation and also the implication for managers.

6. Discussion

6.1 Summary

Our research reveals how engagement with small numbers of passionate actors at railway stations can have a positive, indirect effect on unengaged customer attitudes towards the focal firm. We reveal how engagement activity at the station level positively impacts the satisfaction, and subsequent loyalty, of unengaged passengers.

Confirming a positive, indirect, effect gained by engaging communities is an important contribution of the research. Like virtual communities, our adopter groups meet with a common shared interest. Unlike the virtual community our adopters have tangible inputs to the day-to-day activities of the firm and the firm receives benefits in the form of improved operating environments and increased satisfaction from unengaged. Our research illustrates how the benefits of engagement need not be for the most passionate customers or in high-profile settings alone; it offers empirical evidence of how these rewards are shared amongst a network of stakeholders (Lusch et al., 2011).

6.2 Theoretical Implications

Our key theoretical implication is based on application of generalized effect we identify through the use of generalized exchange theory supported by the results of the HLM model. The empirical study shows a positive, indirect, effect of engagement on a wider customer base and suggests that the cocreating role of the local community is an important component in ensuring the satisfaction of rail users in this context. To date much of the engagement literature has focused on direct benefits (e.g. de Oliveira Santini et al., 2020). Our research advances understanding by revealing empirical evidence of the indirect, systemic effects (Jaakkola & Alexander, 2014).

The importance of this implication can be viewed from three complementary perspectives: firstly, contributors were a minority of the customer base and represent passionate and loyal users (Baron & Warnaby, 2011). To our knowledge this is the first study that has been able to measure the effect of these contributions on others. Firms may be unwilling to invest in schemes like Adopt a Sta-

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tion if they perceive them of only peripheral interest. However, if wider benefits can be evidence then any costs of engagement need not deter firms from attempting to harness the power of highly engaged actors and, thus, providing indirect benefits to other users.

Secondly, the improvements offered by the scheme are not simply targeted corporate investments in firm infrastructure; they emerge from the engagement of the wider community and relationship between the firm and the adopters. The impact on satisfaction is not simply based on cosmetic evidence but represents some kind of enhanced affective attachment to the station and its connection to the community (Alexander & Hamilton, 2015; Alexander & Hamilton, 2016); the greater the ownership of the station by the community, the greater the sense of attachment from a wider community of customers (Muniz Jr & O'guinn, 2001). By engaging with customers lives beyond basic participation the firm has created an innovative platform with potential for mutual benefits (Heinonen et al., 2010). The outcome is an aggregate, optimal value greater than the sum of local optima resulting from the inputs of multiple actors (Sheth & Uslay, 2007).

Finally, a public transport context represents a low interest context for many customers but despite the influence of inertia associated with a daily commute, engagement at the interaction level still had a strong effect on commuters. In a more competitive environment where firms can draw on a larger numbers of passionate, proactive customers benefits could be more pronounced and extend towards higher states of loyalty.

6.3 Managerial Implications

The role of community in modern society is subject to increasing scrutiny with political agendas focusing more on communities as active contributors to public life. The notion of corporate engagement in communities is not new and many companies (e.g. IKEA and Starbucks (Argenti, 2004; Edvardsson et al., 2006)) benefit by making a positive impact on their local area. A cynic might point to self interest in these activities but these examples of corporate altruism, and others like them, are predominately focused on outreach.

What differs in our study is the firm using 'in-reach' rather than outreach, which allows benefits to be shared not only between the firm and active customers but indirectly received by other customers and the wider community. We suggest that other firms, like ScotRail in our case, could look at ways in which the local community might wish to become involved in the day-to-day activities or facilities of the firm. Our case revealed that this involvement does not have to be highly complex or involve any online brand community activity; some of the highest rated stations where those where simple gardening was the main focus. Where more complex activity was undertaken this was driven by the community according to their specific needs. By engaging with local communities ScotRail was able to harness expertise about the local area but also the passion of community actors to take ownership of their environment and make improvements that offer benefits for a range of users beyond the firm itself. By engaging at a local level and ceding control to the community ScotRail facilitated the customization of stations which then become more meaningful sites to the people who use them. Although adopting groups acknowledged that the firm was benefiting from the arrangement the provision of access facilitated wider agendas in the community and on that basis, benefits were shared. Altruism may be one of a range of motivations for firms to collaborate with customers but when benefits from engagement are received indirectly then corporate motivations to engage at the community level are likely to increase.

6.4 Limitations and Future Research

Given the single context for our study, further studies in a range of contexts would offer further evidence of the ripple effect from cocreation activity. The study provides cross-sectional evidence of the indirect effect of value cocreation activity on a wider customer base during a fixed period. A longitudinal study with two or more data collection points could provide evidence of on-going indirect effects of cocreation.

We used satisfaction as our outcome measure which was appropriate given the context of the study. Future studies might wish to explore the extent to which cocreation might influence higher states of loyalty.

Surveying commuters provided a stable, homogenous sample from which to collect data and it provided a more predictable number of passengers in a defined period. However, the focus on the commuter resulted in a high effect of inertia on the data. Future studies could, therefore, aim to collect data from as wide a range of customers as possible.

The potential for actor engagement to have wider, indirect effects is worthy of further exploration. Research which could highlight the value of collaboration with customer communities would be important and collaborating with community groups may have stronger effects when customers have more opportunities to engage with the firm.

7. Conclusion

Both Marshall (1998) and Evanschitzky et al. (2011) observe that firms may have self-interest at the heart of generalized exchanges and it could, therefore, be argued that adopters are simply another 'group of people –

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beyond workers (producers) – to exploit and a new source of surplus value' (Ritzer & Jurgenson, 2010, p. 20). However, given the extent of the relationships and access given to communities in our case this seems less likely. Through both the case study and HLM approach the positive direct and indirect effects of engagement have been empirically measured. The research makes an important contribution therefore by indicating that engagement does not have to involve all clients or even relate to the core activity of a firm to have a positive impact on the activities of a firm.

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Appendix 1 – Commuter Survey Scales

Dependent Variable	Anchors (7 point scales)	Questions
Commuter Stress **(Evans et al., 2002; Kluger, 1998)**	Totally disagree – totally agree	*'I can usually predict when I will arrive at work'* *'My commute to work is consistent on a day by day basis'* *'overall commuting is not stressful for me'* *'commuting to work doesn't take much effort'* *'in general I feel positive about my daily commute'* *'I value the time spent on my commute'*
Commuter Enjoyment **(Kluger, 1998)**	Totally disagree – totally agree	My commute gives me: *'time to think', 'time to relax', 'valuable private time'* My commute affects my productivity on the job in the following ways*: 'it gives me energy', 'it wakes me up' and 'it reduces my stress level'.*
Personal Safety **(Passenger-Focus, 2009)**	Very poor - Very good	*'indicate your overall feeling of safety when travelling with ScotRail'* *'your personal security whilst using your departure station'* *'your personal security whilst on board the train'.*
Station Satisfaction **(Chezy & Simonson, 2001)**	Not at all satisfied – Very Satisfied	*'station cleanliness'* *'station attractiveness'* *'station facilities'* *'station waiting areas'* *'station environment'*

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Dependent Variable	Anchors (7 point scales)	Questions
Word of Mouth **(Zeithaml et al., 1996)**	Totally disagree – totally agree	*'I would say positive things about First ScotRail to other people'* *'I would recommend First ScotRail to someone seeking advice'* *'I would encourage friends and relatives to travel with First ScotRail.'*
Attitudinal Loyalty (Inertia) **(Evanschitzky et al., 2006; Narayandas, 1997)**	Totally disagree – totally agree	*'I would recommend First ScotRail in the future'* *'I will prefer First ScotRail as opposed to other transport providers in the future')*

Keywords: Actor Engagement, Customer Engagement, Value Co-Creation, Generalized Exchange Theory, Hierarchical Linear Modeling

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