Solving the agency problem via a networked supplier social media platform

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Funding information
FP7 People: Marie-Curie Actions, Grant/Award Number: 324408

Abstract
This paper considers the use of incentives and signals by a dominant player to solve an agency problem across a network using a social media platform. An information sharing model underpinned by reward incentives and information visibility, to drive competitive information sharing across homogenous suppliers, is proposed, and builds on early work in the area. The study was exploratory in nature and involved conducting 57 interviews and 3 workshops over a 4-month period across a UK insurance supply chain. The data revealed that when appropriate incentives are combined with information visibility, the Principal can effectively align the suppliers interests with their own desire for supply chain wide information sharing. The research contributes to extant literature on agency theory by extending the Principal Agent (PA) issue arising in a dyadic contractual relationship, to solving agency issues across a network.

1 | INTRODUCTION

As supply chains compete against one another, co-ordinated end to end information and knowledge sharing has been shown to deliver competitive advantages (Raweewan and Ferrell, 2018). Typically, this would include contractual (structured) information and data. However, recently, the wider use of unstructured tacit information is being recognised as a powerful source capable of creating value added within and across organisations (Christopher, 2015; Grant & Preston, 2019) often across intranets. The viability of such corporate networked knowledge sharing platforms depends on the creation and disclosure of user-generated content and the frequency of user visitation. Despite the growing popularity of organisational dedicated knowledge networking sites, the risks of sharing some types of information makes some users reluctant to engage in online disclosure. Inter-organisationally, there is likely to be little willingness of users to share information or knowledge with others across the network for fear of loss/ risk of diffusion of a firms’ operational (and strategic) information (Drewniak and Karaszewski, 2020), (Grant, 2016; Insurance world, 2017; Spekman et al., 2002).

Within professional services such as insurance, policy holder satisfaction and customer retention, are key objectives of the Insurer, making delivery of customer service by the supplier paramount (Insurance world, 2017). Typically, a dominant Principal hierarchical networks exists, where the Principal contracts with suppliers (agents) to perform a service on his or her behalf (be it some widely available service like claims management (homogenous suppliers) or some specialist service like specialist restoration (heterogenous suppliers). Direct service rivals will continually seek to customise (de-commoditise) their service offering, at cost, to ensure they add value against rivals offering similar services to the insurer. However, this value added, may be eroded if information sharing on how they achieve customer centricity is shared across rivals (Cox, 2004). Given this, typically, this type of information (which comes in the form of opinions, experiences, insights etc.,) is not shared in supply chain networks, despite their suggested power to enhance competitive value through learning (Grant & Preston, 2019; Panahi et al., 2013). Additionally, suppliers often have little or no influence or direct connection with one another in insurance supply chains Cox (2004), resulting in rare communication around information-sharing initiatives (Kembro & Selviaridis, 2014).
As well as supplier willingness to share, networked value chains require mechanisms in place to allow information and knowledge exchange to happen (Nonaka & Takeuchi, 1995). Integrated supply chain software systems like CRP, E-SCM’s, and e-mail, do enable explicit information, data and even some knowledge exchange (Kembro & Selviaridis, 2015), however, collectively they are not able to effectively capture implicit and informal knowledge, such as insights, experiences, tips, opinions, ideas etc. (Huo et al, 2014).

Professional service companies are increasingly adopting social media tools (albeit intra-organisationally in the main), to facilitate among other things, tacit and experiential knowledge sharing (Panahi et al, 2013; Steininger et al, 2010). Recent literature points to the knowledge (implicit and explicit) transfer potential of social tools (Janes et al., 2014; Riemer et al., 2012) although they may not be as rich as face-to-face tacit knowledge sharing (KS) (Chennamaneni & Teng, 2011). Many of these studies have focused on the benefits of virtual information sharing, or determinants that drive knowledge sharing behaviour, such as trust, social norms and management support Nguyen, 2020b; Bibi & Ali, 2017, Martín-Rojas et al., 2021). Others recognise the significance of incentives in motivating users to share information, but this has focused exclusively on employees via salary incentives, bonuses, job security or promotional incentives (Lin, 2007). Often this is not recognised as an agency issue, because employees provide knowledge and information on a voluntary basis.

Given the preponderance of mostly intra-organisational studies, it is important to extend this body of work by exploring critical precursors to successful network knowledge and information sharing (e.g. buyer and suppliers), using incentives and signals across a social media platform to solve what is in essence a PA problem. In addition, it is useful to examine the effectiveness of such incentives which may be dependent on the economic connectedness (structural relationships) of users to one another.

To better understand how to align supplier and buyer interests and essentially mitigate the loss of useful information sharing, this paper adopts agency theory by linking the incentives of the principal to the agent (suppliers) across a service supply chain. Linking agency theory to networks is relatively novel approach in the literature (Yang et al 2022).

In doing so, the paper seeks to extend the literature around solving agency issues in networks, and contributes to a fuller understanding of the ‘role’ incentives and signals play in incentivising multiple players in networks to share information across a virtual platform (Yang et al 2022; Kembro & Selviaridis, 2014; Grant, 2016, Grant & Preston, 2019). This research explores a typical buyer centred supply network consisting of a Principal and many dependent and independent agents (suppliers) where informal information sharing is rare. While the literature on P-A incentives demonstrates changes to agent behaviour, to date there is limited research demonstrating PA incentives on knowledge sharing across a social network, or within existing social media theory. This is primarily because this is one of the first studies to examine the role of PA solutions such as incentives and signals on knowledge sharing across a network of typically guarded competitive and non-competitive SME’s. Without an understanding of the role incentives and signals play in an open information network setting, knowledge management strategies across networks and supply chains are likely to be limited.

The rest of the paper is organised as follows: the next section introduces the body of literature exploring influences to information sharing and outlines a conceptual and analytical framework. Thereafter, justification for the single case is made and details of data collection and analysis are presented. Next, the findings are presented and discussed. The paper concludes by drawing out research and managerial implications as well as pointing out limitations and future research opportunities.

## 2 | PRINCIPAL AGENT THEORY

Fundamentally, agency theory examines dyadic exchange settings across different economic entities, be they individual or organisation based (Muller & Turner, 2005). An agency relationship is present whenever one party (the principal) relies on another party (the agent) to undertake some action on the principal’s behalf (Bergen et al., 1992). The objective of the Principal is to maximise his or her utility by providing incentive schemes that direct the agents’ self-interest towards their interests. Many relationships in supply chain networks, including professional services, present a classic principal-agent problem or agency relationship (Arrow, 1985). The causes of PA issues in buyer–supplier relationships arise from goal incongruence, information asymmetry, and power asymmetry (Saam, 2007). Goal incongruence (or hidden intentions) exists because both parties are utility maximisers with self-interest a key driver for their behaviour (Ross, 1973). A supplier behaves in a way that maximises its own interests which can differ from a buyer (Handley and Benton Jr., 2009; Rossetti & Choi, 2008). For example, in insurance, a service supplier may carry out processes, or practices in ways that may conflict with the Principal’s interests of carrying out processes (the supplier may deliver but not optimise customer service). In supply chain literature, buyers and suppliers typically experience misalignment in their operational goals (Grant & Preston, 2019; Rossetti & Choi, 2008).

A second cause of PA issues relates to the existence of information asymmetry, because the agent holds private information that is inaccessible to the principal. It exists in dyadic buyer–supplier relationships because the supplier holds private information relating to cost or practices, and processes, technology, innovation etc to which the buyer has limited access (Saam, 2007). In an insurance context, service suppliers are likely to hold private information on customer service-related processes, or costs associated with adopted practices (Dahlmann & Roehrich, 2019). In addition to goal incongruence and information asymmetry, power asymmetry is the third cause of agency problems (Saam, 2007). An implicit assumption in agency theory is that the power relation between the principal and the agent is asymmetric in favour of the principal (Fama, 1980) and the principal could influence the agent’s behaviours (Saam, 2007). However, if the principal does not possess sufficient power over the agent (power is
asymmetry is not in favour of the principal, or equal to the principal), the agent is unlikely to change its behaviours and the agency problem is likely to remain unsolved (this is exactly what happens in the insurance heterogeneous supplier base).

In a typical insurance supply chain, suppliers are often, reluctant to share non contractual data, information, and knowledge with suppliers as this could erode/damage their competitive position (Porter, 1985) or impact their innovation performance through risk of knowledge leakage and misappropriation (Zhang et al 2018). On the other hand, the principal wishes service suppliers (agents) to share customer service knowledge and information, to improve end-to-end customer centric targets. However, typically, the interests of suppliers (their effort to share, possible leakage of value added to rivals etc.) are not aligned with that of the insurer. This presents a Principal agent problem whereby the insurer can seek to align supplier interests through solutions such as incentives, or signals. Given this context, Principal-Agent theory provides a useful lens through which to view supply chain knowledge and information sharing behaviour in interactive social media networks.

In a typical (non-digital), insurance supply chain setting, while the principal desires the supply base to collectively exchange customer service information and knowledge (insights, experiences) on practices and processes, it cannot easily observe information sharing ‘effort’ levels of suppliers (agent). The principal may seek to influence this effort via incentives (Cox, 2004), on an ad hoc basis (via supplier workshops/or supplier meetings). The agent can choose to exert a low or a high level of effort in order to maximise his/her gain from the incentives, however the effort is likely to be fragmented across the supply base, resulting in patchy or weak information sharing efforts (Grant, 2016). In a digitally enabled supply chain, the principal can issue network wide incentives or signals via a social media platform, making the incentive visible to all (Grant & Preston, 2019). This approach is both cost and time effective and if the incentives are well designed, are likely to result in widespread information sharing. Even though the insurer does not specifically contract the agent (supplier) to share ‘customer/ performance information’ across the network, an unspoken obligation to assist the buyer exists, if the ‘preferred’ status supplier wishes to maintain good relations with the buyer (Cox, 2004). The competitive nature of the supply chain together with the openness of information the platform affords, makes the information sharing effort visible to the Principal and all users to the network.

Within insurance, service suppliers (agents) range from those who are semi-captive or heavily dependent on a Principal or are independent of the principal (Insurer), with some suppliers having a governance arrangement close to Williamson’s market-based structure (Williamson, 1983). Many 1st tier service suppliers compete on similar or near identical services (homogenous), and on a ‘preferred’ status or relationship with the Principal. Others offering more specialised services (heterogenous) are less dependent on the Principal. The more dependent (captive) the supplier on the Insurer, the less bargaining power in relation to the buyer (Gereffi et al., 2005), and the greater the power asymmetry in favour of the Principal. With greater dependency on the Principal, comes a strong desire to see a continued trading relationship or retention of ‘preferred status’ with the buyer, as continued interaction is likely to provide both economic advantage and survival in the short to med term (Porter, 1985). Part of the ‘captive status’ arises from the ‘commoditisation’ of the supplier’s service (Gereffi et al., 2005), as this supplier is likely to be competing directly against others in a given service area (e.g. damage repair, storage solutions, alternative accommodation, claims handling, professional removers etc). Given this, it is logical to assume that the semi-captive supplier is more likely to be motivated by incentives or signals that allude to continuing relational trade or continued preferred status with the buyer. The semi-captive supplier is incentivised to post performance information that demonstrates proactivity in an area that the Principal prioritises - customer service. The agent posts information on customer service activity, demonstrating productivity where it matters, and providing evidence of customer service (CS) activities such as case studies/policy holder testimonials. The use of posts (information sharing) are in effect, used to compete for ongoing contracts, against other homogenous players (Grant, 2016). By contrast, suppliers who are less dependent on the insurer/or have a more equal relationship with the insurer, and/or have a lack of competitors, are less likely to be motivated by the same incentives (the insurer would find it more difficult to replace them easily).

3 | SOLUTIONS TO AGENCY ISSUES

Agency theory articulates the inherent conflict between a principal and its agent (Jensen and Meckling, 1976; Ross, 1973). In order to solve this conflict across a dyadic buyer supplier exchange relationship, solutions such as monitoring, incentives, signalling, bonding and screening can be applied.

In this study, the principal uses incentives and signals to solve the information sharing issue, but relies heavily on information visibility afforded by the network platform to follow this through. The use of incentives/rewards and signals (praise) can align “the agent’s preferences with those of the principal” to aligned goals or objectives - disseminating information on practices for CS improvements across the supply chain (Eisenhardt, 1989, p. 61). With appropriate incentives and signals, the discrepancy between the agent’s and the principal’s objectives decreases, and the agent is more likely to choose actions that favour both parties (Ross, 1973). In this case sharing information on customer practices and processes.

Recent reviews on incentives that determine knowledge sharing behaviour (Nguyen, 2020b; Bibi & Ali, 2017) indicate that rewards (Dong et al., 2010; Hau et al., 2013; Huang et al., 2008; Lin & Lo, 2015; Seba et al., 2012) are the most dominant determinants that drive knowledge sharing behaviour intra-organisationally. Rewards are seen as crucial to knowledge sharing across employees and vary between extrinsic (e.g. bonus or salary) and intrinsic (e.g leading to a reputation). Recent research has highlighted the power of intrinsic over extrinsic rewards (Nguyen and Malik, 2020) for intra-organisational knowledge sharing. A limitation of these previous studies is limited attention paid to underlying power asymmetries between
users when exposed to the same incentive, and hence the differences in effectiveness of some incentives to a heterogenous user base.

This research seeks to explore the idea that the agency problem can be partially, but effectively solved via a social media platform. In doing so it seeks to extend earlier research (Grant and Preston, 2019), to revisit the reward incentive - knowledge sharing link across a network. This research suggests when suppliers to a network are exposed to the same online rewards incentives, (e.g a promise of continued contractual relations or maintaining ‘preferred’ status (Siemens et al., 2007), or enhanced customer service reputation, information sharing behaviour occurs across the network. In other words, reward incentives are more likely to motivate (homogenous) suppliers a network to share information, they would typically have kept hidden. The study extends the PA issue arising in a dyadic contractual relationship, to solving network agency issues, and is a new extension and contribution to agency theory. Given this, the research explores the transparency of information afforded by a social media platform to underpin the effectiveness of PA solutions across (agents) to share their knowledge on customer service (CS) improvements across a network.

4 | RISK OF SHARING INFORMATION VERSUS INCENTIVE TO SHARE

On an individual level, users engaging in online interactions may undertake cost–benefit calculus before sharing information. Phelps et al. (2000), note that consumers are willing to make a trade-off by giving personal information for shopping benefits. Social exchange theory presents a cost benefit framework with respect to social interactions (Emerson, 1981). If the social interaction is perceived to be beneficial, then the individual is more likely to engage in the exchange (Dwyer et al., 2007). Thus, agents (individuals, companies) make choices in which they relinquish a certain degree of privacy in exchange for outcomes that are perceived to be worth the risk of information disclosure (Chang & Chen, 2014). Studies show that risk within an online environment makes some users reluctant to engage in online information disclosure Pavlou et al. (2007), however, more recently, studies on disclosure behaviours on social networking systems, suggest that the perceived benefits of revealing selective information to others, outweigh the costs of potential privacy invasion (Hoy & Milne, 2010). As such, greater perceived benefits (over risks) may prompt individuals to disclose more information about themselves (Zhao et al., 2012).

Within any supply chain, users will seek to balance the risk of information and knowledge exposure against the benefits. Given the differences in vulnerability to economic loss/continued demand for services, it seems logical to assume, homogenous and heterogenous service suppliers will have different attitudes towards knowledge sharing risk, and potential benefits from information exposure. Whereas conventional wisdom would suggest the risks of information loss or knowledge exposure to a rival offering similar services, is a big risk for competing suppliers, the benefits from reputation building are greater for homogenous suppliers over those offering unique services (e.g ceramic restoration), especially if the homogenous supplier can demonstrate ‘differences in abilities’ which lead to continued relationships trading with a buyer. In a competitive (claims) market, it may be more beneficial to release information about one’s abilities to significantly differentiate yourself from competitors and influence a buyer selection decision, over the risk of rivals benefitting from this information. Users to a system who believe knowledge sharing will provide greater benefits (e.g enhance the likelihood of continued contracting with the buyer), are more willing to share their knowledge (Witherspoon et al 2013). Similarly, online users will focus on benefits, and will drift between restricting access, to granting substantial access, depending on the perceived benefits they may gain, adjusting access whenever perceived to be beneficial or necessary (Child & Petronio, 2011).

Information and knowledge sharing can therefore be externally motivated when it is performed to gain an external reward such as ongoing preferred status or perceived future contracts (Deci & Ryan, 2000). Heterogeneous suppliers have less to lose by not risking sharing their knowledge, whereas the more captive homogeneous supplier has more to lose by not sharing their information.

Given this, it is logical to assume that homogenous suppliers to a network will be incentivised to share information that differentiates themselves from rivals in delivering customer service. As suppliers ultimately seek to differentiate their CS effort (stand out), this results in other (homogeneous) suppliers mimicking each other— resulting in widespread information sharing. The framework below highlights these relationships.

The research therefore sought to explore the following questions.

1. What are the effects of reward incentives published on an information transparent platform to a network of typically information guarded suppliers?
2. How effective are incentives/signals to homogenous and heterogenous suppliers in the same network?

5 | RESEARCH APPROACH

Recent research has highlighted the significance of organisational rewards in subsequent knowledge sharing attitudes and behaviours (Lin and Lo (2015), Pee et al. (2010) Grant & Preston, 2019; Grant, 2016). In this paper, the aim is to further explore and refine our understanding of the role incentives play in knowledge sharing behaviour across an information transparent platform. The paper adopts inductive reasoning, using alternative theories and new data. Based on previous research, it is suggested that suppliers weigh up the benefits of information sharing (continued and potential contracts) over costs (eroding competitive advantages/positioning) before engaging in such behaviour. Underpinning this, is the supplier’s perception of current and economic gain and survival in the network via its relationship with the focal buyer.

A focused case research strategy (Yin, 2004) was adopted. The unit of analysis is defined as the social interactive platform (members),...
This approach forces the researcher to be selective and assists in deciding what information should be collected and analysed (Miles & Huberman, 1984). It can allow the capture of multiple perspectives and views on the underlying incentives facilitating information and knowledge exchange, through interview data and analysis at the network level and provides some understanding of the interconnections between firms and how economic dependency and connectedness can underpin the effectiveness of incentives motivating users to share knowledge (Easton, 2010).

6 | CASE SELECTION

The Home insurance claims supply chain case used was considered ‘unique and critical’ (Yin, 2004) and likely to yield new information that could impact on the development of knowledge” (Patton, 2002, p. 236), in understanding incentives to engage in a knowledge sharing social media platform. It was one of a few academically documented of its kind across home claims suppliers in insurance.

A key participant of the case, the Insurance principal, had systematically espoused a more customer centric supply chain, initially through face-to-face workshops, discussions, and networking with the supply chain on an irregular basis, and since 2014, via a social media platform. The Home claims network was identified as being ‘the most advanced in terms of willingness to share information and knowledge across suppliers’, and therefore most likely to yield meaningful data. Furthermore, the insurer felt the role of incentives in motivating knowledge sharing were deemed to be most visible within this group of service suppliers.

Given efforts to improve information and knowledge sharing in the home claims supply chain, and the uniqueness of the case, it could be argued that if it is not going to happen here, it will not happen anywhere’ (Patton, 2002 p. 236) and should permit logical generalisation and maximum application of information to other cases (Patton, 2002).

6.1 | The insurance sector

The home insurance value chain is often seen as strongly buyer-driven, where ‘the clout is in the hands of the front-end’ (Insurance world, 2017). This power is a consequence not only of the fact that generally insurers have more size and are less numerous than service suppliers, (Insurance World, 2017), it is also a consequence of the legitimacy that their proximity to the final market gives to them, to direct the supply chain to satisfy the final customers’ demands (Cox, 2004; Grant, 2016; Grant & Preston, 2019; Insurance world, 2017). More specifically, the insurer’s clout emanates from coordinating service supply teams and its direct relationship with the policyholder (Cox, 2004). The Insurer can with minimal cost, link and de-link supplier services according to policy holder claims needs, resulting in a fluid and flexible claims team structure (Cox, 2004; Insurance world, 2017). The dynamics of such flexibility appear market-like.

6.2 | The sample

The study sample consisted of 200+ participants. The Insurer’s participation included 55 senior and middle management from procurement and sourcing. The insurer employs around 19,000 employees across UK cities. The Home Insurance Supply chain structure consisted of a Head of field operations, senior sourcing managers, supply chain managers, supply chain relationship managers, Supplier Relationship Management (SRM) principals, sourcing analysts and sourcing specialists.

Supply side participants included UK based Small and Medium sized Enterprises (SMEs) carrying out services in alternative accommodation, drainage, furniture replacement, claims management/handling, locksmiths, glazing, security, floor repair, restoration and inspection, subsidence, goods replacements, loss assessors, engineering and surveying consultants. The 160 participants in this group (there were multiple participants from the same company), included senior executives, company directors, chief executives, managing directors, operations directors, one chief operating officer and heads of operations (see Appendix S1). Approximately 30% offered heterogenous services, including specialist restoration, subsidence, engineering and other specialist services. The remaining suppliers offered near replicable services in security, drainage, alternative accommodation, loss adjusting etc.

6.3 | The social supplier network platform

Typically, at different stages of the claims process there is a requirement for collaborative input, participation, and decisions of many external stakeholders. This is usually carried out using top-down systems, where much buyer supplier claims information is standardised, explicit data is distributed through automated E-Systems, and is usually co-ordinated and controlled by the Principal (the insurer). However, informal, and tacit information, data and knowledge rarely gets shared via these systems. In view of a developing culture to promote greater supply chain teamwork and knowledge sharing among suppliers and procurement teams, a browser-based social media platform was hosted by the Principal on its servers. The platform was designed to support the exchange of business-related knowledge, experiences, insights, advice, and best practices- ‘watercooler information and knowledge’ missing from information exchanges across the supply chain. The SSN platform revolved around the concept of multiple responses (streams), to which users were added on a case by case basis. The platform was launched on 22nd May 2014. The main network consisted of 215 users after 24 months. This system remains top down, as the Principal continues to control notifications etc, whilst at the same time mimicking the likes of peer to peer systems like Facebook.

6.4 | Principal incentives

included an official programme (league tables), published net promoter scores(NPS), published performance recognition rewards (trophies, photo’s etc), recognition of supplier participation in league tables etc, and promises of continuity/ preferred status recognition.
7 | METHODOLOGY

While previous research (Dong et al., 2010; Hau et al., 2013; Seba et al., 2012), show mixed results around the use of incentives in generating information and knowledge sharing behaviour, this research posed counter explanations. In relation to Grant and Preston’s (2019) findings for example, exploring rival explanations around relationship ‘structures and incentives’, ‘competition and incentives’ and ‘openness of information and competitiveness’ underpinning knowledge sharing were sought. Given the agency relationship is a significant component of almost all (exchange) transactions, including social exchange (Arrow, 1985), PA theory was used to illuminate the effects of incentives on knowledge sharing. It was thought that by redirecting the study towards incentives, information openness and competition in networks, the original (thought) process model based on ‘expectations’ and group pressures may complement the current incentive model in the supply chain. The redirection of the study is characterised by continuous matching and direction and re-direction with new and existing theory and empirical data (Dubois and Gadde, 2002) including new observations (interviews and workshops), to allow a deeper understanding of the dynamics involved in a diversely structured and connected supply chain.

The empirical data collected from workshops and interviews, continued from a revised theoretical standpoint. The inductive process involved combining several sources of evidence whilst shifting between analysis and interpretation, allowing the researcher to ‘self-consciously collect and double check findings’ Huberman and Miles (1994). This process was found to contribute to new dimensions of the research problem, and derive a central conceptual model (Figure 1). Original ideas on social group pressures as an enabler to knowledge sharing, threw up some puzzling evidence in the newer analysis. In Grant and Preston’s original work (Grant & Preston, 2019), suppliers viewed ‘rivalry’ in sharing information as ‘good competition’. Yet ‘survival’ in the market was a key theme that appeared to strongly underlie (homogenous) supplier’s thought processes and their reticence to share knowledge. New data collected in this study revealed homogenous suppliers appeared to both welcome ‘competing through information sharing’ via the platform as well as acknowledging the potential greater competitive struggle from exposure of that information (if a rival adopted their ideas). What was most revealing from applying PA theory to social media theory using new data sets from this extended study were the following new dimensions:

a. Homogenous suppliers were incentivised to post information that differentiated themselves from others in the group: suppliers shared information on customer service efforts (via case studies, initiatives, positive feedback) to demonstrate that they were engaged and active in customer service efforts (although confessed they would prefer not to reveal this information). Many expressed the importance of standing out in terms of their market value and current productivity by exposing their experiential competencies, and exhibiting alignment with the Principals customer service goals. Initial efforts by some suppliers spurred rival servicing suppliers to do the same, resulting in most homogeneous suppliers engaging in knowledge sharing around customer service.

b. Homogenous suppliers were using similar areas of customer service performance to post on: these suppliers would typically mimic other posts in terms of content and degree of exposure.

c. Heterogenous suppliers offering a more ‘differentiated’ service were less willing to engage in sharing customer service posts, and more interested in keeping abreast of the principals’ plans or communicating on ‘social’ or general industry issues.

8 | DATA COLLECTION

Data were collected via semi-structured interviews from a purposive sample of users, and via two semi-structured workshops. Similarly, past web-based content (Grant, 2016) was revisited, but with a new research focus. Of the two workshops, one involved insurance staff only, and included senior supply chain relationship managers in the main. The second workshop included service suppliers using the SSN.
selected from previous bi-annual insurer workshop lists. Many of the attendees at workshops also took part in interviews. The workshops were a mode of F2F communication suppliers were familiar with albeit infrequently. Some specific topics were decided in advance, but discussion could take an unplanned direction at times. Some of the conclusions reached unexpected ‘surprises’ from data examined within the two groups. This served to validate the initial findings as well as check out new theories and hunches. Two researchers were employed to facilitate and initiate discussions. Some of the material that emerged within workshop discussions were used as themes in the following interviews.

The insights that resulted from the workshops contributed towards further development of the extended research framework and triggered the search from complementary theoretical concepts such as relational structure incentives (Principal-Agent incentives) in an information transparent environment. These observations added a new dimension to the subject which resulted in a refined view of the phenomenon itself, with a focus on the structural/relational connection with incentives as playing an underpinning role in knowledge sharing in an open environment.

The goal of the interviews was to gain a deep understanding of more sensitive issues around engagement (posting information), as well as use pre-determined questions providing some degree of uniformity (Patton, 2002). From a purposive sample of 64 platform users, seven declined the invitation to participate or were not eligible. A key selection criterion for interviewing participants was a continued engagement with the SSN platform for at least a year. User participants were anonymised and are presented in Appendix S1.

The interview schedule grouped key areas thematically to be used for reference and as prompts if necessary. Themes were predetermined from the literature, workshops, and previous findings. These included: buyer supplier relationships (dependency and independence), governance, the role of the SSN, customer service, incentives, punishments engaging with the platform, signals and competition.

The iterative nature of the data collection meant new themes developed as early interviews were coded. Later themes included: ‘good competition’, rivalrous strategies, differentiation and mimicking behaviour, connectedness on the focal insurer and relationships with other insurers, benchmarking, informal learning, survival, fear, ‘continuity’, risk, rewards and punishments.

Interview questions were piloted with a small number of researchers for content and clarity. All participants were invited to participate at a time and location of their choosing. The interviews were conducted by one researcher, and transcribed verbatim, before being loaded into NVivo 11 for coding and analysis. The data collection timeline is exhibited below Table 1:

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Data time line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop 1 (insurer only):</td>
<td>Workshops facilitators:</td>
</tr>
<tr>
<td>Early September 2015</td>
<td>2 researchers</td>
</tr>
<tr>
<td>Workshop 2 (supplier only):</td>
<td>Workshop participants: 10–25</td>
</tr>
<tr>
<td>Mid-May 2016</td>
<td>Duration: 2–2.5 hrs per workshop.</td>
</tr>
<tr>
<td>57 supplier interviews:</td>
<td>Total time: (workshop) 5.0 hrs</td>
</tr>
<tr>
<td>September 2016–January 2017</td>
<td>Total time (interviews) 60 hrs</td>
</tr>
</tbody>
</table>

8.1 | Analysis

Data analysis began with reading all answers from both the interviews and workshops to form a general view of the data, followed by more detailed analysis. An emergent coding approach was adopted in both interviews and workshops, where categories were established following an initial independent review of the responses. To ensure reliability, explicit coding scheme instructions were used by the original two coders, with a third coder trained to maintain reliability requirements. Coding training sessions involved practice coding to establish and test good initial reliability. Changes to the checklists and instructions were made during these practice sessions to ensure instructions were clear. The analysis process included a checklist of features to work to. As in the original research, both researchers compared notes and reconciled any differences that showed up on their initial checklists.

Workshops

Observations during supplier-only workshops contributed data that would not have appeared otherwise. These observations (supplier’s matter of fact attitudes towards each other, almost wholesale agreement with some themes (differentiation and deterrence) generated further questions which were explored in interviews. The insights derived from the new data prompted a search for other relevant theories. This new data, eventually offered a ‘network role (of incentives) underpinning knowledge sharing. As with interview coding, workshop recorded discussions involved a systematic process of cross-checking coding strategies, followed by an interrogation of the data. Where there was a lack of agreement around the interpretation of the data, a third coder was employed. In a few cases, original interpretations had shifted when the data were revisited, and a better fit was agreed. Once categories across workshop material were established, second order coding emerged which identified relationships among the open codes. This can be seen in Table 2 below. Emergent themes included ‘information guardedness’; performance expectations; incentivising performance; supply chain relations (dependency in focal and external insurer supply chain relationships); competition strategies (differentiating), mimicking, fear, future relations, economic survival, risk, benefits etc. A new thread that emerged related to continuity in terms of ‘future contracts/collaborations’ and, ‘loss of preferred status’.

An example of a common thread which was corroborated with earlier web-based data were the near universal view that positive performance acknowledgements i.e. ‘achievement, praise and insurer tributes’ were a sufficient incentive to encourage suppliers to engage
with the network. This strengthened original data reliability. In addition, a new category emerged which centred on a supplier’s view that inactivity on the platform could invite penalties later down the line. An emergent theme was later defined as ‘standing out’ from the crowd to ‘influence’. An iterative approach was adopted, where insights from earlier interviews were visited in remaining interviews to receive additional comments either confirming or contesting a common thread (Miles & Huberman, 1984).

Given research on PA issues in supply chain knowledge sharing has focussed heavily on dyadic relationships, rather than networks, the researcher believed there may be other relevant coding categories at a network level. An “open coding” example that developed during the analysis, related to connectedness to other supply networks, and the effects of structural connectedness on sharing knowledge across supply chains. A minority of suppliers with ‘bigger investments in other supply chains’ were more reluctant to risk ‘damaging relationships with clients’ in other supply chains. Here a theme of ‘holding back’ (risks involved) on information sharing was introduced. Eventually, the coding categories enabled a “logical link between the data and the results” (Näslund et al., 2010, p. 337). Insights from earlier interviews were addressed with the new data sets to confirm or contest common threads. In the final stage of the analysis, the findings were discussed, confirmed and reflected upon with key interviewees, to substantiate the findings and “enhance the understanding and also take the learning forward – for both the researcher and the organisation” (Näslund et al., 2010, p. 337).

8.2 Responses

To validate the findings, quotations from the data are presented in Appendix S1. To ensure the respondents’ anonymity, the extracts are labelled with numbers running consecutively from 1 to 57. A data hierarchy was constructed to depict the process of iterative data coding as shown in Table 2 below.

To help with rigour in the data, the researcher tested for credibility, transferability, dependability and confirmability (Miles & Huberman, 1984). Each criterion included specific actions adopted to help meet trustworthiness in the data and its analysis, as listed in Appendix S1. In addition, it was important to seek inference to the best explanation (Josephson & Josephson, 1994). To provide strength of the alternative evidence and theory (Josephson & Josephson, 1994) some “considerations”, are also provided in Appendix S1. A peer review exercise around new conclusions was conducted to ensure reliability.

9 FINDINGS AND DISCUSSION

The research sought to understand the effectiveness of an information transparent networking platform to solve agency problems between a principal and a network of suppliers. For this, an inductive approach was adopted, and a new general theory was applied (P-A theory) to aid understanding of how competitive drives across homogenous suppliers could underpin incentives to knowledge sharing across a network of companies in an environment of hyper visibility. Two conditions appear to incentivise information and knowledge sharing – the degree of competition between suppliers, and visibility of incentives across the network. In other words, PA issues can be solved across a networked supply chain, in the presence of reward incentives across competing suppliers.

By broadcasting signals implying continuity or preferred status, and reward incentives, no one supplier is singled out and this creates a level playing field for competition. For those suppliers who are directly competing with one another, meeting the Principal’s requirement (the sharing information on customer service) will be something to strive for to increase their chances of preferred status success, and ongoing contracting (if the information is sufficiently impressive).

For heterogenous suppliers, the relationship with the principal is less dependent, and the principals’ incentives to share customer service insights do not work so well. The heterogenous supplier is less willing to share information that exposes competitive advantages to others, as the principal is less likely to be able to replace their services.

Adopting a PA lens, the findings reveal a clear association between underlying rewards incentives and competition within the network and meeting the Principal’s desire for knowledge sharing behaviours to occur across the network. Specifically, inductive reasoning suggests.

An open information platform underpins the effectiveness of incentives that motivate suppliers to share their knowledge on customer service improvements across the network, as they compete to do so.

Interview data revealed buyer-dependent suppliers (offering homogenous services) were more likely to be motivated by insurer incentives to share customer service information and knowledge over those suppliers who were less dependent on the Insurer. In the social exchange context of the SSN platform, by broadcasting awards, the Principal in effect singles out high achievers, but also signalled ‘continuity, continued working relations and continued preferred supplier status’. A typical post sums it up: Congratulations on your work on CDC, we think this is an important innovation in claims fulfillment, and are delighted to see your continuing efforts in this area ...we will be introducing your ideas into the process and look forward to collaborating with you in future’ (Insurer).

In addition to focused awards, the insurer would regularly publish the names of the top 5 companies scoring above a threshold value in net promoter score tables (key measure of customer service satisfaction used by the Principal). Pre-platform, suppliers would not have been aware of NPS’s of competing suppliers. Many homogenous suppliers identified this feature as useful tool suggesting, the publication of NPS scores had increased competition’, another supplier suggested ‘I think NPS league tables does encourage competitiveness and drive behaviour in that it shows you are passionate ...yes there is a certain amount of competitiveness, but it’s also useful to see what your rivals have done and how they’ve done it ... the platform provides the opportunity to see what
their capabilities are and see what they are all doing. We didn’t have this before.’

Another suggested ‘Imagine not performing well …you can see how all the suppliers compare with each other, and then it’s kind of raising the standard rather than looking at a supplier in isolation. It’s good to see this is an achieving target and we should definitely derive something from this.’

For those suppliers who were not league table ‘top hitters’, many confessed to posting information to ‘level the playing field’, especially if they had not shared information previously....
I think once somebody has posted this complement report, then other people feel if they are not doing the same, if you do not see the complement, then people think they are not taking place, so any opportunity for people to promote what they are doing well is done, and additionally the method of doing that posting complement details means they are not giving away any confidential information or giving away any working practices, they just say whatever we have done, this customer is very happy with, they wrote to tell us that, we have done a good job but we are not telling you how or why, but what we do makes our customers happy. So I think it’s sort of protective self-promotion, but at the same time not giving away too many details.

For homogenous suppliers, achieving excellence in customer service was paramount to survival in the supply chain. As one explained, ‘We look at the NPS results, that’s important, it’s what our customers are telling us’, at this point there is not a lot more important than how the customer feels the claim journey has gone. Because it’s going to impact on whether you will stay with AAA, so potentially it’s really important. We look at complaints, we look at life cycle average invoice value, so, with AAA, that’s all important. So, how well or not you doing on the NPS, how long it’s taken you to achieve an outcome is important, - AAA look at what are the processes that they want us to improve, what does the customer like, to be fair they like efficiency, like speed, so that’s huge for a customer’.

The SSN platform posting facility makes a supplier’s customer service effort (and productivity) observable to an extent, which allows the supplier to demonstrate their value to the Principal now (rather than waiting for others to catch up). Competition among homogenous suppliers in the market is intuitive in that current effort enhances a supplier’s future productivity and prospects. These visible early efforts benefit both current productivity and improves a supplier’s market value. At the heart of these efforts was future contractual prospects with the Principal, and concurs with earlier research (Grant, 2019; Kubo & Saka-Helmhout, 2002), suggesting ‘incentives’ effectively encourage competing suppliers to share information. Homogenous suppliers were more likely to include posts highlighting a customer service achievement, which included images of completed works, internally published cases/initiatives or proof via customer testimonials, allowing them to stand out against direct competitors.

Homogeneous Suppliers to a network will be incentivised to share information that differentiates themselves from their rivals, increasing competition between them.

The conceptual framework suggests suppliers will post credible information and knowledge if they perceive the benefits from doing so outweigh the risks (Hoy & Milne, 2010; Zhao et al., 2012). The homogenous supplier perceives higher benefits over risks occur if they believe the insurer will act on their enhanced market value (supplier demonstrates current productivity in CS solutions and a lead in developing CS competencies). Underlying this is the belief that this added market value will/can sway decisions regarding ongoing or future rewards (contracts, promotion, projects etc). The most likely explanation would suggest that suppliers weigh up the costs and benefits of posting information and will post if they perceive that ‘standing out’ as a value adder in the eyes of the Principal will result in benefits.

While homogenous suppliers offered similar services, they competed on differences in either value added from experience-based competencies, capacity or cost management, allowing them to ‘close off’ ‘some service areas to others in which they operate’, and thereby restrict competition in that service area. One interview theme revealed ‘concern’ over a rival who was contemplating diversification into overlapping areas of service. This concern manifested itself either through ‘shutting down’, that is, posting little useful information (few responses from interviews), or showing off competencies (via posts) to deter rivals from entering the service area (many responses). This concurs with previous research (Grant & Preston, 2019). As one supplier suggested ‘although many of our suppliers operate slightly different areas of business, there is a lot of overlap between the companies and you know they all want to expand their businesses and grow, and they are looking to move to different areas so they are not willing to share too much knowledge because another company might also be trying to move itself into that area of the market, so I think there is a cautiousness regarding what they share. However, I also think the platform does encourage people to show off their abilities, despite the risk someone will use it,’ it drives behaviour in that it shows you are good at what you do and you want others to see it as well. The platform provides the opportunity to show what your capabilities are, and see what theirs are and what they are all doing and potentially thinking of doing’.

This view is aligned with literature (Porter, 1985) suggesting ‘knowledge-based resources can be used as both a marketing tool, and a barrier to entry to a service. The findings reveal a competitive dynamic between suppliers posting on knowledge sharing posts that ‘differentiate’ and highlight ‘value added’ in relation to others. Suppliers posting credible explicit and implicit knowledge-based assets (e.g. cases, schemes, initiatives, policy holder feedback, experiences, stories, opinions etc.) strived to highlight competencies developed over time, that allow them to stand out from their rivals. Many of these knowledge assets demonstrated ‘investments’ (time) that a supplier had gone to provide a ‘smooth transition to claims fulfilment’, or an outline of ‘a scheme used to achieve claims lead time reduction’, or ‘managing surge’, or deliver ‘great customer experiences' Inductive reasoning would suggest sharing information on knowledge assets and experiential competencies can be used competitively to enhance prospects of continuity in a service area, or retain a ‘preferred’ status with the buyer.

Whereas the idea that the more competitive the supplier, the less likely they are to share information goes against conventional wisdom, evidence from workshops suggests, directly competing suppliers are more likely to be motivated by insurer incentives, and more likely to mimic each other’s posts both in terms of type of content, as well as in the degree of engagement with the SSN platform, to ensure they are not being outperformed by rivals. As one supplier explained ‘The more I use the platform, the more I see that its being used by people to add complements about their own services… so good new stories, in a self-promotion type of way, you know’, Homogenous suppliers acknowledged that many ‘postings’ were linked to jockeying for position, with...
about 80% of posts showing the Insurer that they are good at what they do and 20% showing their competitors that they are really good at what they do. ‘That it was being used as a marketing tool’, or that suppliers ‘were jumping on the marketing bandwagon’.

In an environment where suppliers (direct rivals) are posting positive news, it makes sense to mimic such behaviour, leaving less room for the insurer to perceive suppliers differently when selecting claims teams. In contrast, rewards incentives were less effective at eliciting a response in heterogenous suppliers. Evidence from workshops revealed a nervousness in this group, around releasing too much information that ‘could damage a supplier relationship with other clients’, and hence these suppliers appeared less willing to share their ‘knowledge assets’.

Inductive reasoning suggests the motivation to risk sharing information is tied to the buyer supplier relational structure within the network. As the transparency of information via the platform provided a ‘performance monitoring’ mechanism, for direct competitors (significantly more dependent on the Principal, than heterogenous suppliers), remaining inactive was perceived as risky and potentially costly in term of future contracts and relations with the focal insurer. Whilst earlier literature (Grant & Preston, 2019) suggests group pressures (suppliers following similar goals) motivated KS behaviour, these findings do not go far enough in revealing the differences in degree of knowledge sharing or type of knowledge disclosure across suppliers and how this is connected to the type of relational structure with the Insurer, nor how these differences underpin the effectiveness of incentives to share knowledge. While heterogenous suppliers revealed they shared the same desire/goal of appearing visibly active in CS engagement to the principal (via workshop discussions), these pressures are increased when the dependency on the Insurer is increased. This suggests while group pressures to goal congruency are strong (Dhalokia et al. 2004; Grant & Preston, 2019), supplier dependency (future contracting or continued preferred status) to a buyer and ‘service homogeneity’ in particular play a key role in how effective that incentive will be.

10 | THE SSN INFLUENCE: INFORMATION VISIBILITY

The SSN provides an effective vehicle for a Principal to communicate incentives across a wide supply network. Prior to platform implementation, informal information sharing on CS across suppliers was limited to ad hoc workshops with the Principal. The visibility of incentives, aimed at no one supplier on the platform creates a competitive environment as direct rivals seek to demonstrate their abilities through their posts, in the hope of securing continuing contracts and maintaining preferred status. Ultimately the platform forces some users to become more transparent in their CS efforts and gives the Principal further leverage.

Over time, the SSN platform evolved as the only ‘immediate’ mode of communication to alert the Principal that suppliers were proactively pursuing customer service. As one supplier suggested ‘the client would not accept emails on customer service changes from network members, and the platform represented the only route to immediately alert the Principal that they were actively doing so’. This was validated by the insurer who suggested [the platform] ‘really helped in making sure that suppliers are aware of our business and are goals’. As platform usage evolved over a two-year period, the perceived value of posted knowledge assets to the supply chain, was mixed. Whilst some respondents (predominantly homogeneous suppliers) described the information/knowledge as guarded, or ‘protectively self-promoting’ by not giving away details and how they achieved it, others felt that knowledge sharing on the platform had provided the potential for change and learning. “For us, its receiving information we can then pass down to the business, and it might be a training improvement, it might be a customer service improvement, a process improvement, and sometimes there is a very good article which I will promote within the team”.

The inductive approach has allowed the researcher to examine and refine the findings of earlier research on the value of knowledge sharing incentives across networks (Grant & Preston, 2019; Hau et al., 2013; Lin & Lo, 2015; Seba et al., 2012). Viewling the findings through a PA/ incentive lens, attributes a strong role to the underlying relationship structure in facilitating effective incentives for the supply base to share knowledge widely. Inductive logic suggests the range of relationship structures within a supply network (independent suppliers, semi dependent agents; loose buyer supplier relationships), and the threat of rationalisation in the supply base, appears key to supplier thought processes and behaviours. This appears logical in a market where insurers and their supply chains are “pressured to shorten lead times for policyholders, drive down costs (keep premiums low), and keep customer service at the forefront of their operations” (Insurance world, 2017). As a result, many insurers seek to motivate suppliers to develop supply chain capabilities in customer service by incentivising them to share their knowledge in this area, so that the value created has the potential to benefit the whole supply chain’s competitiveness. However, given the competitive structure of the supply base, typically, firms would rather not share knowledge if they feel that what they gain from sharing knowledge is outweighed by losses from relinquishing their monopoly over some of their knowledge.

Typically, extant supply chain literature suggests information that confers some competitive value to rivals would not be shared with competing suppliers (Brandenburger & Nalebuff, 1997; Spekman et al., 2002). What this literature does not consider, is the power of information visibility to facilitate a supplier’s assessment of ‘economic benefits versus costs’ that may arise from sharing credible and ‘potentially competitive information and knowledge’ on a dedicated platform and solve agency issues. This contrasts with underlying assumptions in supply chain literature (Klein & Rai, 2009) that players will refrain from sharing information if there is a risk that this information may negatively affect their competitive position or that knowledge disclosure can give a competitive advantage to rivals. The analysis suggests it is precisely the underlying competitive environment, combined with information visibility that make incentives so effective in knowledge sharing behaviours within a digitally enable supply chain. Without the openness of information, the motivation to
share information across a network would be limited, even if PA incentives were present. Whereas relational structures between P and A remain unchanged, what has changed paradoxically, is the use of information and knowledge as a competitive tool by these suppliers. This extends existing supply chain literature and is a major contribution.

This paper’s inductive logic suggests PA theory provides a good fit as a theoretical base that appears aligned to the emerging empirical evidence from the workshops and interviews, as well as with previous data sets. Weighing up of the benefits against the costs of exposure of information and knowledge, is another important theory that works well with the emerging empirical data.

11 | MANAGERIAL AND THEORETICAL IMPLICATIONS

Theoretically the alignment to PA theory suggests significant implications for managing supply networks through incentives. Reward incentives can play a powerful role in changing some ‘player’ behaviour, and hence this study provides opportunities to generalise to other sectors with similar supply chain relationship characteristics. The differences in competition between suppliers revealed incentives did not affect all suppliers in the same way, so a need remains to design different incentives for knowledge sharing to be effective across all users.

The findings have implications for decisions around choice of systems for knowledge sharing purposes. Top-down systems may have a bearing on the way suppliers to a system behave, and it may be necessary in highly competitive environments to initiate the direction of conversations. In a truly peer to peer bottom-up system, it may prove difficult to get competitive suppliers to engage readily without incentives.

Notably, this study is one of the first to explore the value of hypervisibility of incentives across a competitive supply base in generating knowledge sharing across a network and solving this agency problem. From a practical perspective, the significance of this research is interpreted by its potential to assist those stakeholders with an interest in enhancing inter-organisational online knowledge sharing behaviour to develop approaches and strategies with maximum effectiveness, yet limited resources.

12 | LIMITATIONS, FUTURE DIRECTIONS, AND CONCLUSION

While there are many influences to information and knowledge sharing behaviours across social media network users, this research has focused on the use of broadcast incentives in an inherently competitive and open information environment between suppliers. A key limitation is the focus on one sector and one case in the UK insurance market. Cultural differences may well play a part in how effective types of incentives will be for relational structures to facilitate knowledge sharing behaviours across competing organisations. This presents a future direction.

The analysis rests on qualitative studies in a single industry. The paper trades generalisability for richness, thus potentially risking producing theories that are idiosyncratic and not generalisable to the entire population. Longitudinal studies with larger sample sizes are encouraged to develop more precise propositions or hypotheses for testing.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

*How to cite this article:* Grant, S. B. (2022). Solving the agency problem via a networked supplier social media platform. *Knowledge and Process Management, 1–13*. [https://doi.org/10.1002/kpm.1728](https://doi.org/10.1002/kpm.1728)