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Predictors of firm community interaction

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ABSTRACT

This paper discusses eight ways in which bus operators interact with the communities in which they provide a bus-service. An exploration of factors hypothesised to be associated with an operator's community interaction (the predictors) is detailed, then tested, using bivariate and multivariate analysis methods. The results reveal some of the hypothesised factors to be actual predictors, although a full-scale explanation for an operator's community interaction is not possible. This paper suggests that bonding social capital and bridging social capital possibly accounts for a large portion of the unidentified factors at work that explain a bus operator's community interactions. The results of this study should encourage policymakers and legislators to ensure that the bus operator governance model that interacts with its community the most is sustained in order to contribute towards community prosperity.

1. Introduction

If, how and to what extent a firm interacts with its community forms part of a firms' corporate social responsibility. This paper will link bus operator governance with community prosperity. The ways and means in which bus operators interact with the communities that they provide a bus-service for will be detailed, and then an exploration of the factors associated with their interactions, or predictors of these interactions, will be presented. Then, using both bivariate (involving or depending on two variables) and multivariate (more than one statistical variable at a time) analysis methods, the predictor variables that have the strongest correlation with operators' propensity to interact with their communities will be identified. The causal nature of a firm's propensity to invest in, and interact with the community in which it operates is an area where previously little has been known.

This paper is organised as follows. Section 2 will outline the composition of the Australian bus and coach operating environment and some historical and current trends. Section 3 will present a literature review on a firms propensity to interact with or contribute to a community. Section 4 presents the methodology for this paper. Section 5 will introduce eight ways in which bus operators interact with their communities, and seven potential causal factors (or predictors) associated with these community interactions (CIs). These interactions and predictors are drawn from Lowe (2016). Section 6 presents the results of the bivariate and multivariate analysis. Section 7 features a discussion on the meaning and implications of the results and a conclusion is drawn in Section 8.

2. Industry composition

According to the Bus Industry Confederation (BIC, 2014), the Australian bus and coach industry contributes more than four billion dollars to the Australian economy each year and employs more than 50,000 people. The BIC states that bus operators travel a total of 18 billion kilometres and provide approximately 1.5 billion passenger trips per year. There are approximately 88,000 buses in Australia.

There are six sets of stakeholders in the Australian bus and coach industry: operators, authorities (or regulators), suppliers, voluntary professional associations, users (or patrons) and unions.

The nature of bus operator governance in Australia is changing. Small Victorian bus operators (with less than ten buses) declined by approximately 34 per cent during the period 2005–2015, while the number of large Victorian operators (with more than 100 buses) more than doubled (from six to 13) in the same period. Other Australian state-based voluntary professional associations (SBVPAs) reported similar trends. Further, the governance models of large bus operators have expanded from government or family-owned models only at around the turn of the millennium to hybrid (private-public) models and non-family, public, multinational enterprises (MNE) in 2015.

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Reasons for operator consolidation vary, but based on anecdotal evidence obtained from being an industry practitioner since 2008, the main reasons are increased regulatory obligations (including new accreditation regimes); declining economic activity and populations in some rural communities, which has seen the rationalisation of school bus services in these towns; new vocational opportunities that have presented themselves to children of operators, which has meant that many have decided not to continue the family bus business; and a number of operators have sold their bus business because they do not trust that the government will not tender their bus service contract.

Family firm bus operators have embedded themselves in Australian communities over generations in most cases. Throughout the nation, the family name, or the family business name, has been displayed proudly on buses in the communities in which each family chose to 'put down roots' and operate its service. As early as the early 1900s, family bus operators had developed a network of trust and reciprocity with their community stakeholders, such as schools, sporting clubs and community service clubs, and contributed to the fostering of their community in many ways. Typically, family firm bus operators in Australia are not bus operators alone; instead, they perform several roles within their community. They generally display a level of local leadership that is valuable and significant, and Lowe (2016) places an economic value on this interaction.

'Stateless' MNEs possess enormous concentrations of power, access to resources and operating efficiencies. It is often argued that given this power, MNEs have special social (and environmental) responsibilities. However, little is understood of how an MNE's corporate social performance compares with that of other governance models and the extent to which non-economic impacts of MNEs on communities are beneficial, neutral or destructive.

Most bus operators with a government-funded bus service contract belong to their SBVPA. There is a long-held custom of Australian state governments procuring some bus services via a negotiated process through the SBVPA as the representative of the collective operators. Historically, the SBVPA has acted to varying extents as an agent of government to assist in the delivery of certain policy objectives and social outcomes. However, of late some state governments have adopted policies that increase contestability, resulting in the tendering of some bus services and the awarding of bus service contracts based on the lowest price (Hensher & Wallis, 2005; Hansson & Holmgren, 2011).

During this period of change, contracting for social values or a social purpose, such as community prosperity, is absent from state government tendering regimes. This reality is threatening the sustainability of many incumbent operators' businesses because of the ability of large MNEs to discount, indicating a move towards cost efficiency rather than evaluating social benefit.

3. Literature review

If, how and to what extent a firm interacts with its community forms part of a firms' corporate social responsibility. As this paper assesses the propensity for different types of firms to interact with its community, a review of corporate social responsibility will provide an understanding of what has gone before.

Corporate social responsibility has become central to many organisations' *modus operandi,* as large corporate scandals and failures have made investor protection a significant issue for all financial markets. Scandals and disasters such as Enron, Arthur Andersen and HIH are rooted not in family businesses, but in large, publicly traded MNE's. As a result of some large corporate disasters, investors and regulators are requiring that companies implement rigorous corporate governance principles to reduce agency costs and achieve better returns. Literature on corporate social responsibility, performance and governance is voluminous.

Aras and Crowther (2008, p. 440) suggest there are four principles of good corporate governance: transparency, accountability, responsibility and fairness. Corporate governance attempts to address the creation of sustainable value, achieving the firm's goals and keeping a balance between the economic and social goals of the company, including the efficient use of resources, accountability in the use of power and the behaviour of the corporation in its social environment.

Aguilera and Cuervo-Cazurra (2004) suggest corporate governance issues have received recent attention from policymakers and the public because of two parallel processes, globalisation and transformation in the ownership structure of firms. Effective corporate governance systems provide countries with a location advantage, but changing governance systems is not a simple task, as governance practices are embedded in the broader institutional environment. This reflects the current state of the Australian bus and coach industry.

De Chiara and Spena (2011) stress the need for MNE's to frame their behaviour within corporate social responsibility systems and to adopt a different approach to the management of local resources and stakeholders. They argue MNE's should shift their perspective concerning workers, suppliers and community from viewing them as exploitable resources to perceiving them instead as partners and co-creators of MNE values.

Klassen and Vereecke (2012) examine which management capabilities contribute to competitiveness and, more specifically, how they might be linked to social responsibility, risk, opportunity and performance. Perrini, Russo, Tencati, and Vurro (2011) suggest that the narrow, exclusive focus on short-term monetary results has led to counterproductive and negative consequences for business and society and the real influence of corporate social responsibility efforts on corporate performance remains questionable.

Cennamo, Berrone, Cruz, and Gomez-Mejia (2012) suggest stakeholder management is increasingly at the forefront of the corporate agenda. At its core is the notion that a firm has multiple goals in addition to maximising shareholders' economic value. This requires the firm to see beyond its own financial goals to identify and meet the desires of diverse parties, often with conflicting interests, such as employees, environmentalists and the community at large. The 'balanced scorecard' (Kaplan & Norton, 1992) approach is another model that has such a focus.

Cennamo et al.'s (2012) paper is the only scholarly attempt the researcher could locate that discusses, albeit briefly, how firms interact with their communities. The author's assert that the firm is an extension of the family and

> should reflect the leading family principals' core values which could entail other-benefiting activities such as consideration of others' interests when important decisions are made, benevolence, nonreciprocal good deeds, and philanthropic giving in the community at large (p.1159.)

This is the extent of what the authors suggest a firm's responsibilities are to the communities in which they operate. The authors also assert:

> engaging with stakeholders is the 'right thing to do' regardless of financial or individual consequences. If unselfish emotions are at play, issues like well-being of the local community in which the firm operates, environmental management, human rights and poverty among many other social ills, are likely to become

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more salient to family principals, even if these issues have no direct link with the firm's activities (p. 1163.)

The absence of scholarly attempts to define more specific ways in which firms interact with their communities underpins the need for this research. Other than Cennamo et al.'s (2012) paper, which generally discusses a firms' philanthropic endeavours with the community, no other scholarly literature on the specific types of ways firms interact with their community was located, for example, sponsorships, donations, time contributions, safety and security contributions, just to name four. Nor can any literature be found which directly examines the value add of the bus industry to a community.

4. Methodology

The methodology included a survey of bus operators that was developed and sent in late 2013. A survey was chosen to measure the extent and value of an operator's CI and their interactions with the SBVPA because the exploratory stage only gave the research breadth, not depth. A survey would examine any potential association between social, economic and psychological variables and behaviour. The survey asked 29 questions seeking qualitative and quantitative answers concerning company size, ownership and control; the extent and value of an operator's CIs; their views on the role of the SBVPA and their sense of community.

This study asks the following research question:

> What are the variables (or influencing factors P1–P7) that are associated with bus operators' interactions with their community?

I surveyed 1623 member operators from the six SBVPAs and the federal representative body (which has operator members that were not members of the SBVPAs), which represents approximately 30 per cent of all bus operators in Australia. All recipients were requested to complete and return the survey by 7 March 2014. Upon enquiring into the robustness of the number and nature of operators that do not belong to SBVPAs, representatives from each of the SBVPAs stated that these are mostly charter bus and tour bus operators with no government contracts and community transport providers, both of which have a lesser need for representative services. When the surveys were returned, all quantitative information was entered into SPSS™ (v.20, IBM, USA). Survey response numbers varied from state to state, as presented in Table 1.

To analyse the survey, a bivariate approach was initially taken, and the means of each of the eight CIs (CI1–CI8, which were all continuous or 'scalar' variables) were cross-tabulated against the seven variables that were hypothesised to be associated with a bus operator's CI (P1–P7, five of which were categorical variables). There are two convenient denominators for scaling the 276 survey responses: per staff member (employee) and per bus. (see Table 2)

The 'number of buses' and 'number of staff' denominators were adopted for two reasons: first, these metrics resemble the Australian Bureau of Statistics definitions of small, medium and large businesses, and accommodate the two of the unit determinants associated with measuring firm size, being number of staff and number of buses; second, these groupings reflect the industry's general rule of thumb (and therefore understanding) of what size fleet a small, medium or large operator has.

Table 1
Survey response rates.[a]

	VIC	NSW	QLD/NT	TAS	SA	WA	ACT	Total
Surveys sent	424	526	187	185	45	255	1	**1623**
Surveys returned	98	73	24	24	5	52	0	**276**
Survey capture ratio	23%	14%	13%	13%	11%	20%	0%	**13%**

[a] The 13 per cent survey response rate was deemed adequate by two independent consultant statisticians for undertaking statistical analysis on an overall (national) basis. Specific analysis for South Australia and the Australian Capital Territory was not possible due to an inadequate number of responses to the survey.

Each of the individual CIs (CI1–CI6) were first cross-tabulated against the potential causal variables (P1–P7) and then this was repeated in aggregate. The aggregate analysis was undertaken using six of the CI, not eight. Safety and security contributions were excluded from the aggregate totals because these interactions do not have a tractable unit value. Local purchasing was also excluded from the aggregate total analysis because of the difficulties associated with the nine survey responses from large operators (operators with more than 100 buses), whose turnover was in the tens of millions. All other survey responses were from small and medium operators, whose turnover was in the tens of thousands or low hundreds of thousands. This resulted in a bi-modal set of responses that skewed the mean value results substantially. Hence, this interaction was excluded from the aggregate totals.

An hourly labour rate of $35.00 was the unit variable multiplied by the number of hours contributed for the CIs that were temporal in nature in order to arrive at an estimated market value for time contributions. This figure was used based on advice from a national commercial adviser to the bus and coach industry, and the figure represents the average of all school, route and charter bus driver hourly rates of pay on a national basis.

Regarding the presentation of each result, it should be noted that where the test returned a value <0.05, this is deemed statistically significant and is indicated by '*'. Where a test returned a value <0.01, this is also statistically significant and will be indicated by '**'. Both are also highlighted. The results are typically presented in a figure with two parts: a column graph showing the mean values with corresponding 95 per cent confidence intervals for either the linear data or the Ln-transformed data; accompanied by a table underneath the column graph, which shows the corresponding results of the contrast test for comparison of means. All error (or uncertainty) bars contained herein represent a 95 per cent confidence interval.

5. Bus operator community interactions and potential predictors

The nature of a bus operator's CIs is drawn from Lowe (2016). During the first stage of this project, eight different ways bus operators interact with their community were identified and categorised from the data gathered by undertaking more than 50 interviews with bus operators and related stakeholders in Australia and overseas. These CIs are briefly explained and illustrated with quotations from bus operators' interviews:

(CI1) Discounted services denote the CI in which bus operators provide bus services either free or at discounted prices for bus services to local organisations and individuals.

> We often say yes to the odd free trip. We might do a men's health night in [town name withheld], our nearest regional centre, where we will offer the bus in and out of [town name withheld] free of charge. In fact I think we should be obligated to do some extra bus stuff for free; we certainly feel obliged to do these extra things. We also provide a bus run in and out of [town name withheld] every now and again to take locals to a movie. If we didn't do this, some of our residents wouldn't ever catch a movie. (1)

(CI2) Financial and non-financial donations refer to the CI in which operators donate money, or general goods and services, such as utility bills, food or clothes to organisations and individuals.

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Table 2
Denominators for scaling survey responses.

Code	Meaning	Explanation
#Buses	Total number of buses the firm runs	The #Buses category will be divided in three sub-sections: 1–9 buses (small); 10–99 buses (medium); 100 + buses (large). Each interaction will be valued in nominal dollars and no weighting will be applied.
#Staff	Total number of staff (both full time and part time) the firm employs	The staff member category will be divided into three sub-sections: 0–29 (small); 30–99 (medium); 100 + staff (large).

> We helped an employee buy a house and he is extremely loyal. We made a very simple arrangement where he repays me $1000 a year for 20 years as the repayment plan and we do that for the staff that are loyal and those that you trust. He is not family, but is part of our family business. I'm not alone. I know of several operators in my area who do this sort of thing, because it is our town. Everyone makes a contribution. (8)

(CI3) Sponsorships refer to the CI in which operators sponsor the initiatives of local and non-local individuals and organisations, such as schools, students, local sporting clubs, as well as local and international charities.

> We also sponsor footy clubs, soccer clubs and other sporting bodies, as they unite our community. I say this a lot, but it's all about community wellbeing. (5)

(CI4) Time contributions refer to the time operators contribute to civic organisations, serving as office bearers on community boards and philanthropic organisations.

> We have been members of the CFA [Country Fire Authority] for 52 years and give approximately six hours a week to this. I am a vice president of the ratepayers' group and have been in this role since the amalgamation of the shires. We act as a conduit between the ratepayers and council and do a lot of complaint liaison work, which keeps me busy for about six to ten hours per week. I also sit on the local planning committee who allocates dollars to town projects such as street skating, public amenities, walking tracks and memorial gardens. (15)

(CI5) Safety and security interactions involve established relationships between operators and passengers increasing passenger safety and security.

> We know all our kids as well. We know all the parents. When the parents are not at a bus stop when the bus arrives we don't ring them, we just bring them back to our house, then we ring the school and the parents come and collect them from our house. This shows the level of trust between ourselves and the parents. The school often advises us of drop-off and pick-up changes because of special circumstances and we are happy to oblige. (271)

(CI6) Local purchasing involves CIs by operators consciously reinvesting income from the bus service in the local community to support economic growth and community survival. This includes the preparedness of some operators to pay a premium for the product or service for sourcing it from their immediate community rather than a more competitively priced supplier in a locality further away.

> Shop locally. It's a small town everyone needs to help each other or we won't have local schools, shops, social and sporting venues. (43)

(CI7) Sharing resources involves the interaction of operators sharing different types of capital (mainly buses, drivers, depots, equipment) with each other when needed to ensure the contracted bus service is able to continue operating.

> Because we are a small business and it is good to help each other without gain. (7)

(CI8) Combining of resources involves the interaction of one or more operators combining their various forms of capital to present themselves as one operator (or contractor) for either large people-moving tasks that might occur for special events, such as planned and unplanned rail replacement work, or a task where one operator will require additional resources from a lesser number of operators to satisfy a larger than normal request for services.

> Good communication and sharing with other operators is important in breaking down barriers. (266)

> Gets our name into other markets, payback is always better than being paid. Industry members need support wherever they are. (203)

Trends emerged very early in Stage One of this research project that suggested that bus operators' behaviour in relation to their interaction with their communities was virtually the same throughout the countries that were investigated. Small, medium or large; family or non-family, bus operators all over the world had an orientation and degree of interaction with the communities they serviced. However, the scale (or extent) of that orientation and interaction varied substantially. I then solidified my early (practitioner) thinking with the learnings associated with conducting interviews as a researcher and arrived at seven potential causal factors that may increase the propensity of a bus operator to interact with their community:

(P1) Firm size (small, medium, large). It seems that small, and to a lesser extent, medium bus operators interact with their communities to a greater extent than large operators, possibly because smaller operators may not be as focused on scale economies and profit as much as larger operators.
(P2) Operator type. Different preferences of CI by were observed for different types of bus operators. School bus operators, possibly because of their isolation, and generally being small in size, appeared to have deeper connections with their community.
(P3) Operator location (metropolitan or regional/rural). Bus operators in regional and rural areas appeared to have a deeper

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connection and greater involvement with their immediate communities, possibly due to smaller populations, the lesser number of services available in those communities compared to the larger support networks in metropolitan areas, and a greater extent of social capital.

(P4) Place of residence of the operator (in or outside the community in which the bus service operates). It is possible that bus operators who reside in the community in which their bus service operates interact with their community more than operators who do not, perhaps due to a lesser inclination or preparedness to contribute to a community in which they are not embedded.

(P5) Form of service contract (negotiated or tendered). Bus operators with negotiated (or rolled over) bus service contracts appeared to interact with their communities on a per staff member basis more than operators who were awarded bus service operating rights as a result of a tender, possibly due to a perceived greater degree of tenure certainty associated with historical service contract renewals.

(P6) Operators' sense of community. The extent of a bus operator's individual integration with their community, or the extent of their dedication to being part of a collective (including their influence, fulfilment and shared emotional connection) may increase an operator's preparedness to contribute to their community.

(P7) The extent of social capital linkage between the operator and its SBVPA. Operators who are members of a SBVPA use their SBVPA as a forum to network, share and exchange ideas, increase inter-operator trust and agree on matters affecting the sustainability of the collective operators' businesses. This involvement and dependence (social capital linkage) may create an environment of operator solidarity that enables the SBVPA to secure favourable contract terms and trading conditions, including a negotiated renewal of a bus service contract. This could engender an increased propensity for operators to interact with their community.

The variables that have the strongest correlation with operators' propensity to interact with their community will be tested in the following sections. This knowledge could be of value to local, state and federal governments, the industry and community groups seeking a greater sense of corporate social performance, community viability and prosperity.

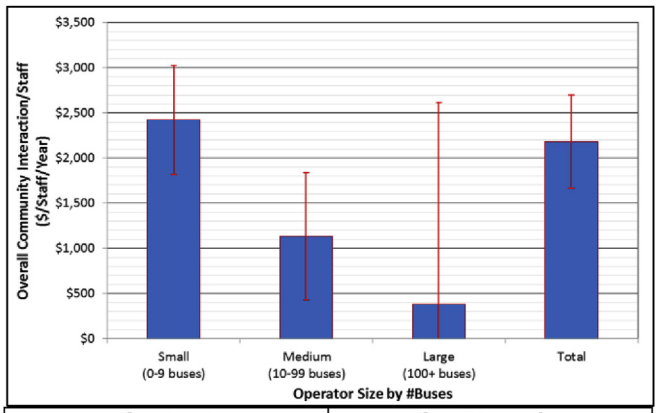
6. Results

6.1. (P1) Firm size

The overall (combined) analysis for the variable of firm size revealed that on an aggregated basis for the six CIs, small family firm operators contribute to their community by an average of $2423 per staff member per year; medium operators contribute to their community by an average of $1134 per staff member per year and large operators contribute to their community by an average of $384 per staff member per year. The contrast between small and medium-sized operators was statistically significant. The contrast between small and large and medium and large operators was not significant probably because of the small sample size of these sized operators. Fig. 1 presents these results. Table 3 presents the number of each size of operator that responded to this question.

6.2. (P2) Type of operator

On an overall basis, school bus operators are the operator type that interact with their community the most, with a value of $2303 per staff member per year. Charter and tour operators were found to interact with their community to the value of $2151 per staff member per year, while route operators were found to interact with their community to a value of $268 per staff member per year. The difference between route and school operators was also found to be statistically significant. The contrast between route and charter operators was significant at the 10 per cent level. It was concluded that type of operator is a predictor variable of a bus operator's CIs. The results are presented in Fig. 2. Table 4 presents the number of operators who responded to this question.



Contrast (Operator Size by #Buses)	Sig. Value for One-Way ANOVA Contrast Test (Linear data values)
[Small–Medium]	0.007**
[Small–Large]	0.143
[Medium–Large]	0.551

Fig. 1. Combined sum of six CIs (per staff member, resolved by operator size), and corresponding contrast test results.

Table 3
Sample size overall community interactions per-staff-member resolved by operator size.

Size by #buses: S, M, L	N
Small (0–9 buses)	159
Medium (10–99 buses)	29
Large (100 + buses)	5
Sub total	193
No response	83
Total	276

6.3. (P3) Operator location

On an overall basis, the regional and rural operators' mean CI on a per staff member basis was found to be $2,360, compared to $920 for a metropolitan operator. This overall result was also found to be statistically significant. This behaviour may occur because regional centres and rural towns have smaller populations than metropolitan cities, and there may be a greater level of inter-dependence among the townsfolk and a stronger resolve to support local initiatives in order to sustain the viability of the town; in other words, a greater degree of social capital. Metropolitan centres have large populations and more support networks or organisations that community members can look to for sponsorships, discounted services, and the other defined CIs. It was concluded that location can be a predictor variable of a bus operator's CI. Fig. 3 presents

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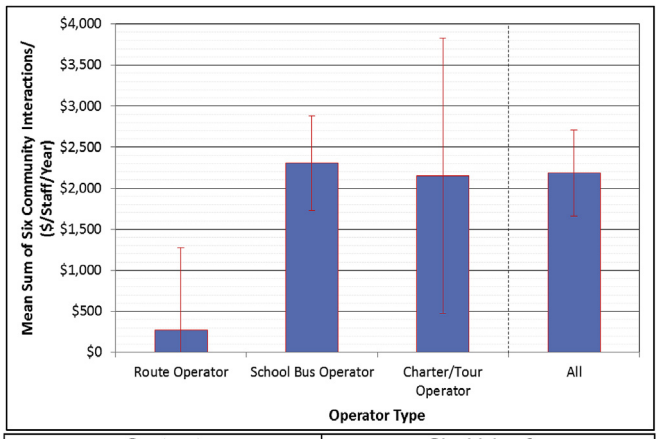
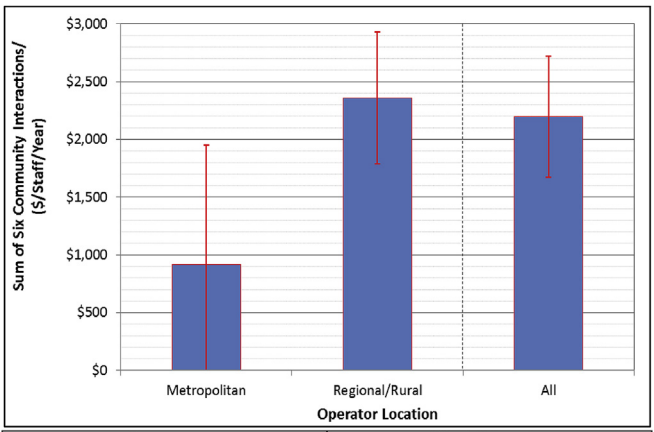


Contrast (Operator Type)	Sig. Value for One-Way ANOVA Contrast Test (Linear data values)
[Route]–[School]	0.003**
[Route]–[Charter/Tour]	0.066
[School]–[Charter/Tour]	0.865

Fig. 2. Overall sum of six interactions (per staff member, resolved by operator type), and corresponding contrast test results.



Contrast (Operator Location)	Sig. Value for Independent Samples t-Test (Linear data values)
[Metropolitan]–[Regional/Rural]	0.020*

Fig. 3. Overall sum of six contributions (per staff member, resolved by operator location) and corresponding contrast test result.

Table 4
Sample size sum-of-six community interactions per-staff-member resolved by operator type.

Predominant type of operator	N
Route operator	10
School bus operator	167
Charter/Tour operator	18
Sub total	195
No response	81
Total	276

these results. Table 5 presents the number of operators that responded to the question.

6.4. (P4) Operator's place of residence

On an overall basis, the mean CI for operators who live in the community in which their bus service operates is $2357 per staff member per year, as opposed to $1286 per staff member per year for operators who do not live in the community in which their bus service operates. The result is not significant however. It is concluded that place of residence could not be considered a predictor variable of an operator's CI. The results are presented in Fig. 4. Table 6 presents the number of operators that responded to this question.

6.5. (P5) Form of service contract

With regard to the form of service contract (P5) (negotiated or tendered) being an actual predictor of a bus operator's CI on an individual CI basis, the data reveals that operators who have been awarded operating rights via a negotiated process interact with their community the most on a per staff member basis for seven of the eight CIs. Further, on an overall basis, the mean for the sum of six CIs for bus operators with a negotiated contract is $2,558, compared to $1970 for those bus operators who were awarded operating rights as a result of a tender. However, the result was not statistically significant. Thus, it is concluded that the form of contract is not a predictor variable of a bus operator's CI. Fig. 5 presents these results. Table 7 shows the number of operators that responded to this question.

Table 5
Sample size sum-of-six community interactions per-staff-member resolved by operator location.

Operator location	N
Metropolitan	22
Regional/Rural	172
Sub total	194
No response	82
Total	276

6.6. (P6) Sense of community

The relationship between overall sense of community variable (P6) and the eight individual CI variables (CI1–CI8) was tested by means of correlation plots (or 'scatter' plots). The overall sense of community variable and each of the eight individual CI variables (CI1–CI8) are continuous variables. All correlations undertaken for sense of community delivered very low R^2 coefficients, suggesting there is virtually no dependence between the overall sense of community variable (as quantified by Q. 28) and each of the eight CIs (CI1–CI8). It is concluded that from a bivariate analysis perspective, sense of community is not a predictor variable of a bus operator's CI.[1]

6.7. (P7) Social capital linkage

By cross-tabulating the results of survey Q. 26(c) with the primary state of operation, the results revealed that in respect of the SBVPA enhancing an operator's ability to interact with a community:

- Victoria received 47.9 per cent for the sum of 'strongly agree' and 'agree'; Western Australia was next with 44.2 per cent, then Tasmania with 42.1 per cent. The overall mean was 41.6 per cent.

[1] Despite this result, Lowe (2016) discusses some qualitative evidence that sense of community could be a predictor of a bus operator's CI.

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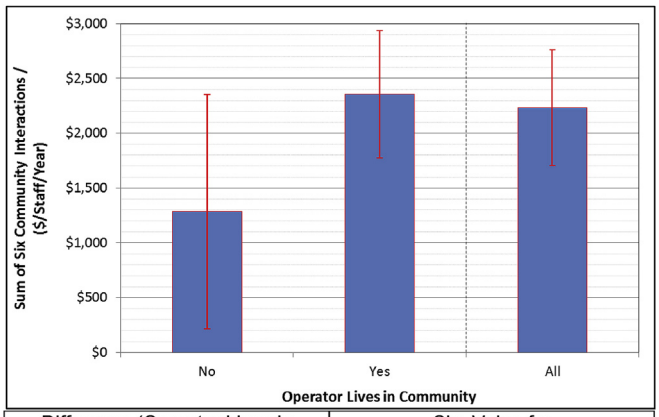
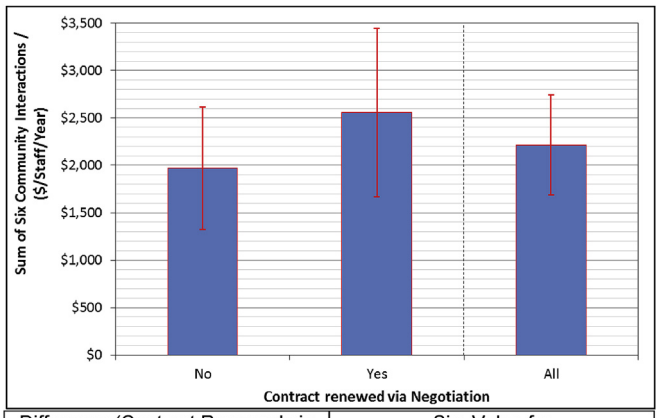


Difference (Operator Lives in Operating Community)	Sig. Value for Independent Samples t-Test (Linear data values)
[No]–[Yes]	0.087

Fig. 4. Overall sum of six interactions (per staff member, resolved by operator place of residence), and corresponding contrast test.

Table 6
Sample size sum-of-six community interactions per-staff-member resolved by operator residence.

Live in operating community	N
No	22
Yes	169
Sub total	191
No responses	85
Total	276



Difference (Contract Renewed via Negotiation)	Sig. Value for Independent Samples t-Test (Linear data values)
[No]–[Yes]	0.286

Fig. 5. Sum of six CIs (per staff member, resolved by form of contract), and corresponding contrast test result.

Table 7
Sample size sum-of-six community interactions per-staff-member resolved by form of contract.

Contract renewed via negotiation	N
No	109
Yes	78
Sub total	187
No response	89
Total	276

- Conversely, the sum of 'strongly disagree' and 'disagree' for Queensland was 30.4 per cent, which is a material divergence from the overall mean of 15 per cent. This suggests that operators in Queensland generally did not see the endeavours of their SBVPA as enhancing their ability to interact with their communities at the time the survey was completed.
- These findings are tempered by the neutral response (the sum of 'don't agree or disagree'), which secured a high overall mean of 43.1 per cent. This may suggest that the level of involvement, influence or dependence (strength of networks, trust and reciprocity) an operator has with its SBVPA is an issue that respondents may wish to give more thought to.

Thus, it was concluded that using bivariate statistical analysis, social capital linkage is not a predictor variable of a bus operator's CI. The results are presented in Table 8.

A multivariate approach, binary logistic regression, was used to measure the relationship between a categorical dependent variable and one or more independent variables. This method is used specifically for problems in which the dependent variable is binary—that is, where there are two categories available, such as yes or no. Initially, three sets of 12 distinct, but similar, binary logistic models were constructed. The predicted dependent variable is in every case a measure of the level of CI of a bus operator. In each case, CI was ranked in descending order of dollars per year value. So, for each measure of CI, there are two groups of bus operators, those who are ranked in the top 50 per cent, and those who are ranked in the bottom 50 per cent in terms of their level of CI measured in dollars per year.

There are six distinct ways of measuring CI in dollars per year:

A CI per staff, where CI is a sum of six contributing elements;
B CI per $10,000 turnover, where CI is a sum of six contributing elements;
C CI per bus, where CI is a sum of six contributing elements;
D CI per staff, where CI is a sum of seven contributing elements;
E CI per $10,000 turnover, where CI is a sum of seven contributing elements;
F CI per bus, where CI is a sum of seven contributing elements.

Furthermore, the above six distinct possible dependent variables ('Predicted') A to F, are considered against the proposed independent predictor variables ('Predictors'). For this exercise, purchasing behaviour values have been included to form a 'sum of seven' model to examine whether the local purchasing variable makes a difference to any analysis. Table 9 illustrates the various models for this binary logistic regression. Table 10 presents the results of this first multivariate modelling exercise.

Each of these three data sets yielded much the same set of models with much the same predictive power. This demonstrated that the difference between the large operators and the small and medium operators is not statistically significant, or at least is not reflected in this multivariate model. The difference between metropolitan and rural/regional operators was also not reflected in these models. However, the binary logistic regression revealed that the response data from the survey question concerning sense of community, the survey question concerning whether the operator resides in the community in which it operates, and the survey question concerning the size of the operator may be proposed as modest predictors of a bus operator's CI.

7. Discussion

The results presented in this paper suggest that firm size does matter when it comes to matching bus operator governance with

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Table 8
Cross-tabulation: Q. 26(c) ⊗ Q. 6 primary state, in relative terms (percentage).

		Primary state						All
		VIC	NSW	QLD	TAS	SA	WA	
Q. 26(c)—Enhances ability to interact with community	1: Strongly Agree	10.9	6.1	0.0	5.3	0.0	7.0	7.3
	2: Agree	37.0	34.8	21.7	36.8	0.0	37.2	34.3
	3: Don't Agree or Disagree	42.4	43.9	47.8	36.8	60.0	41.9	43.1
	4: Disagree	7.6	15.2	21.7	21.1	20.0	11.6	12.9
	5: Strongly Disagree	2.2	0.0	8.7	0.0	20.0	2.3	2.4
Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9
Set 2—Model F2, F2′ and F2′′: predicting CI (sum of 7) per bus turnover/[$/Bus/Year].

Dependent variable, i.e., 'Predicted'	Dependent variable type	Independent variables, i.e., 'Predictors'	Independent variable type
CI per Bus (Sum of 7) [$/Bus/Year]	Categorical (2 values): - Top 50% ranked - Bottom 50% ranked	Operator Location (*for Model F2 & F2′ only*) (Q. 7)	Categorical (2 values): - Metropolitan - Rural
		Operator Type (from Q. 8)	Categorical (4 values): -Route -School -Charter Tour -Other
		Number of Buses (from Q. 8)	Scale: - actual number of buses
		Operator Size by #Buses (from Q. 8)	Categorical (3 values): - Small (0–9 buses) - Medium (10–99 buses) - Large (100+ buses) (*for Model F2 only*)
		Form of Contract (from Q. 10a)	Categorical (4 values): - Gov't operated - Tender - Negotiated - Other
		Lives in Community (Q. 29)	Categorical (2 values): - No - Yes
		Social Capital Q.26a *(Q. 26b through to Q. 26d, all scale variables)*	Scale: 1.00–5.00
		Social Capital Q. 26e	Scale: 1.00–5.00
		Sense of Community Q. 28a *(Q. 28a through to Q. 28k, all scale variables)*	Scale: 1.00–5.00
		Sense of Community Q. 28l	Scale: 1.00–5.00

CI. The quantitative evidence suggests that large firms' goals are mainly financial-centric, whereas the goals of the small and medium family firms are more socio-economic centred. This underscores the importance placed on the achievement of non-financial goals by family firm bus operators and the socio-emotional wealth of the community in which the firm or family is embedded. This finding is consistent with a construct entitled the 'family point of view'. Sorenson, Goodpaster, Hedberg, and Yu (2009) found that collaboration within a family was associated with an increase in the resources available to the family business, including loyal customers, family support and community goodwill. This construct explains a family's behaviour with respect to developing their networks to prepare them for being active community participants and fostering community prosperity.

It is possible that having policies in place that enable communities to take more decisions for themselves, rather than have a state or federal government dictate what is the best action for the community, may see a quicker and more effective achievement of social outcomes, such as social cohesion, community connectedness and social inclusion, all of which contribute towards community prosperity.

With respect to operator type, charter and tour bus operators were shown to interact with their community the most on a per staff member basis on five of the eight CIs. Charter and tour operators generally do not have any buses contracted to government services; they cannot count on receiving a contracted sum of money each month for contracted bus services. Charter and tour operators are more exposed to economic circumstances that are outside of their control. Fluctuating exchange rates, low levels of economic activity, fluctuations in the price of fuel and disruptions to the tourism sector, such as pilot strikes and terrorist attacks, are among the different set of uncertainties placed upon charter and tour operators. This requires these operators to have the governance mechanisms in place in their business to make their costs as elastic as their revenue. A key point of difference between charter and tour operators and other bus operators is the size of their community of interest. Long-distance tour operators' businesses traverse multiple communities [for example, long-distance tour operators have arrangements with accommodation providers, restaurants, bus servicing facilities and the like in many communities that their services go through (such as Melbourne to Darwin)]. Thus, charter and tour operators need to forge strong and enduring relationships with community stakeholders, and not just patrons, at each stop along the way, and count on those relationships to keep their business going.

School bus operators typically operate in less populated, more isolated communities, and given this, there is probably a stronger degree of closer networks, trust and reciprocity between the operator and their community than there is for their metropolitan operator counterparts. The relatively low extent to which route operators interact is a curious result. Route operators, at

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Table 10
Summary results for binary logistic Models.

Model	Cases Included	# Cases included in Model	Variables Identified as Predictors in Model	Model's Overall Percentage Accuracy
A1	All cases where the data is complete, valid and has not been identified as an outlier.	196	q7_Location, q26c_q26d_sum, Constant	60.4
A2			q28g, q26c, Operator_Type, Constant	61.6
B1		189	q7_Location, Constant	57.5
B2			q28g, q7_Location, Constant	62.1
C1		198	q7_Location, Constant	58.8
C2			q28g, Constant	60.0
D1		169	q29, Constant	57.7
D2			q29, Constant	57.7
E1		171	Constant	50.7
E2			Constant	50.7
F1		171	q28_Overall, q29, Constant	60.9
F2			***q29, q28c, q28k, Constant***	***66.7***
A1′	Same as for models A1–F2 above. Additionally, all cases where #Buses ≥ 100 have been excised (9 cases in all).	191	q8_total, q26c_q26d_sum, Operator_Type, Constant	62.8
A2′			q8_total, q28g, Operator_Type, Constant	**66.0**
B1′		184	q7_Location, Constant	60.0
B2′			q7_Location, q28g, Constant	63.3
C1′		193	q8_total, Constant	56.1
C2′			q8_total, q28g, Constant	61.1
D1′		166	q29, Constant	57.8
D2′			q29, Constant	57.8
E1′		168	Constant	50.0
E2′			q28b, Constant	58.1
F1′		168	q29, q28_Overall, Constant	61.0
F2′			***q29, q28c, Constant***	***64.0***
A1″	Same as for models A1′–F2′ above. Additionally, all cases where q7_Location = 'Metropolitan' have been excised (a further 25 cases; 31 cases in all).	170	Constant	55.2
A2″			q28g, q28b, Operator_Type, Constant	65.0
B1″		163	Constant	54.0
B2″			q28g, Constant	62.0
C1″		171	q8_total, Constant	55.6
C2″			q28g, q28a, Constant	62.5
D1″		148	Constant	52.8
D2″			Constant	52.8
E1″		149	Constant	50.8
E2″			q28c, Constant	62.9
F1″		149	q29, q28_Overall, q8_total, Constant	65.3
F2″			***q28c, q29, q8_total, Constant***	***66.9***

least in Victoria, have been embedded in their communities for generations and in many instances are community leaders and generous contributors to their communities. In many communities, the local route bus operator is one of, if not the, largest firm. Route bus operators have an important presence in most parts of Australia, usually through a combination of being long-term employers, dedicated purchasers of local goods and services and holding fixed assets. Route operators have a degree of influence in their local area, which is why this is a curious result.

These results also suggest that family firm operators enjoy a deep embeddedness with their local community, and that the family's identity and reputation has grown as the community has grown. The accumulation of social capital (networks, trust and

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reciprocity) between the operator and their community suggests this embeddedness is associated with a family or a family firm's desire to have a legacy and share the benefits created by their business with the local community. Many operators believe the family name, or the family business name, has a level of awareness in the community that has meaning and a value. Participants in this study disclosed a determination for continuance in order to serve the community and this signals that operators are aware of their community's expectation that they interact with it as if it were almost a compulsory requirement.

With regard to whether the operator is based in a metropolitan centre, or regionally or rurally, the results present a contrasting CI dynamic between the two. In metropolitan Melbourne, there are only 13 contracted route bus operators and a large number of charter or tour operators. These firms are medium to large in size, and mainly family businesses. However, as previously noted, hybrid and MNE operators are entering the market and acquiring medium and large sized firms. From a quantitative perspective, the mean of the overall route operators' CI in this study was relatively low on a per staff member basis compared to that of the medium and small firms. Some survey respondents and interviews with metropolitan route and charter operators provided evidence of these operators having transgenerational relationships with suppliers to their business. Most operators displayed a loyalty to their suppliers, which is not often evidenced in business nowadays. It appears that this loyalty is maintained despite the possibility of the operator being able to secure more competitive pricing, terms and conditions for that product or service elsewhere. This goes to the heart of the identity and reputation of the family, the family firm, and the non-economic goals of these operators being more important than the financial goals of the firm. Some family bus operators have transgenerational relationships with suppliers for many reasons. One of the reasons that emerged from the survey data was the fact that some operators stated that these trusted suppliers had supported them during times of adversity, especially through the late 1980s when the industry was fighting a legal battle with the state government, and in return for that support, flexibility and loyalty, they feel an obligation to keep supporting them. These networks, trust and reciprocity have been the foundation of a 'recipe' for continuance and community service for most family bus operators who participated in this study, irrespective of whether they are metropolitan or country-based.

Bus operators who reside or operate outside of metropolitan areas were more sensitive to the concept of sense of community in this study than the metropolitan bus operators. The challenges stemming from the spatial placement of many regional and rural communities was an underlying concern for most of the operators who completed this survey. It could be said the overarching challenge for many rural communities was how they could preserve or enhance the wellbeing of their long-term residents, but at the same time attract new residents in order to keep the community prosperous.

Concerning bus service procurement and its potential impact on CI, at present there is significant dissatisfaction with the constricting environment posed by competitive tendering, especially in Europe, where there has been a significant tendency for risk-averse authorities to tightly specify service expectations and then be surprised at a lack of operator innovation. This has been a significant issue, and in December 2011, the European Commission proposed the revision of these Directives, which was voted in by the European Parliament in January 2014. Member European states have until April 2016 to transpose the new rules into their national law. These new requirements include the use of negotiation and allow some contracting for environmental and social considerations. More locally, policies that seek to increase contestability and realise financial savings have been consciously pursued, or stated as being intended to be pursued, by state governments in New South Wales, South Australia, Queensland, Northern Territory and Victoria between 2010 and 2013. Since 2014 however, this intent appears to be changing again, due to the commitment of the recently elected state governments in Tasmania, Victoria and Queensland to dispense with tendering and pursue a negotiated outcome with incumbent operators.

With respect to a bus operator's sense of community, the bivariate results suggest that sense of community is not a predictor variable of a bus operator's CI, although binary logistic regression analysis found modest support for this notion. It follows that operators with little or no memberships, influence, community integration, or the need for fulfilment and shared emotional connection (Chavis, Hogge, & McMillan, 1986) with their community would be less inclined to interact with their community because they would have no reason to do so; these operators would perceive there to be little or no benefit in doing so. This assertion is evidenced by the volume of responses to the survey question which asked operators why they interacted with their community: one hundred and sixty of the 276 survey responses answered this question, and all but eight (5 per cent) respondents wrote of their desire for community integration, the fulfilment of needs and shared emotional connection with their community. Ninety-five per cent of responses in the affirmative is a highly suggestive indication that an operator's sense of community has a bearing on the extent of their CI.

The results of this study suggest that the SBVPA indirectly enables a bus operator's CI in one, possibly two states only. The extent of involvement and dependence between operators and their SBVPA varies from state to state due to the extent of the involvement, dependence and resultant social capital linkage between operators and their SBVPA not being universal. It is suggested that the higher trending mean overall results from the five survey questions about social capital linkage appear to come together and increase the propensity of an operator to interact with its community. These behavioural inputs result in a greater degree of expectation of continuity on behalf of the operators, which engenders an increased propensity for operators to interact with their communities.

Notwithstanding, these seven predictor variables alone do not contain the information that is necessary to predict the dependent variable. The results of the multivariate analysis suggest that three of the identified variables are in fact predictor variables of a bus operators CI. But they only succeed in explaining a relatively small part of the variation in the CI variable. This suggests there are other unidentified factors at work that explain a bus operator's CI, and that it is necessary to place the causal factors that have been shown to explain a bus operator's CI into a wider, more complete and complex context. A full-scale explanation for an operator's CI is probably impossible to accomplish. There could be many potential predictors of an operator's CI, including faith, culture, left/right handedness, mental health, birth order, public/private education, marital status, age and so on. Most of these potential predictors do not have reliable metrics, and it is very difficult to build a model from so many disparate variables.

However, subsequent to finalising the survey results, several community leaders were interviewed to establish their views or expectations of their local bus operator. Some of the themes taken from these interviews include reciprocity of financial reward; family and firm reputation; identity and survival; public safety; passenger etiquette; community expectation; faith and personal values and being local. All of these are associated with either bonding social capital (which encapsulates the values of

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the close, dense relationships like family) or bridging social capital (which refers to accessing the multiple networks, resources and opportunities outside the closeness of the family unit.) As this project does not directly measure the extent or value of bridging and bonding social capital as it relates to the operator and the community in which they operate a bus service, further research may be required to see if a stronger multivariate result could eventuate.

8. Conclusion

This paper presents eight ways in which bus operators interact with the communities in which they provide a bus-service, and tests seven hypothesised variables that predict, to an extent, such interaction. The bivariate results reveal support for the following predicted variables to be actual predictors of a bus operator's interaction with their community: firm size, type of operator, and location of operator. The multivariate analysis revealed that sense of community, operator resides in the community in which they operate and firm size are modest predictors of an operator's propensity to interact with their community. A full-scale explanation for an operator's CI is probably impossible to accomplish, although it is suggested that bonding social capital, bridging social capital and morals and values possibly account for a large portion of the unidentified factors that explain a bus operator's CI. Given that the results of this study reveal that the small regional school bus operator who lives in their community and holds a negotiated service contract is the governance model that interacts with its community the most on a per staff member basis in the eight defined ways, policymakers and legislators should adopt a determination to ensure that this governance model endures, to ensure their effect on building community resilience and prosperity. Contracting for social values is a way governments might be able to achieve some of their social objectives and contribute towards achieving a net social benefit. Social procurement serves to ensure that government purchasing decisions incorporate consideration of social value and, in so doing, ensure that government purchasing power maximises opportunities to achieve outcomes and benefits for the people and communities they serve. The consideration of social values as a 'pillar' of procurement is one of the three pillars of the 'triple bottom-line' (economic, social, environmental) theory. Lastly, this study fills a void where there was a lack of knowledge associated with what the actual characteristics or variables of different types of governance models are that influence a firm's propensity to interact with its community.

Cennamo et al.'s (2012) discussion on how firms interact with their community is general and brief. This study makes a contribution to knowledge by defining eight ways in which firms interact with their community and identifies some, but not all, factors which influence a firms propensity to display varying levels of corporate social responsibility toward their community. This could serve as a basis for other scholars to better understand the ways and means a firm demonstrates its corporate social responsibility toward its community.

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