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Intention to Use Collaborative Transportation Among SMEs: An Exploratory Investigation of the Wine Industry

Jeremy Galbreath^{1 a}, Kristina Georgiou^{2 b}, Richard Oloruntoba^{2 c}

¹ School of Management and Marketing, Faculty of Business and Law, Curtin University, ² School of Marketing and Marketing, Faculty of Business and Law, Curtin University

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Collaboration is a vital strategy for SMEs and research in the field has investigated a variety of pathways for collaborating. However, little of this research has explored collaborative transportation, which is surprising, given that transportation is the largest logistics cost item and one of the top challenges faced by SMEs. To advance the literature on SME collaboration, this study examines SMEs and the intention to use collaborative transportation solutions. We do so by taking a qualitative approach, based on the theory of planned behaviour, one of the most important models for predicting human intention. Relying on a sample of 15 SME wine producers in Western Australia, we find that the marginal benefits of collaborative transportation outweigh disadvantages, but only in the context of economic rather than social benefits. Participants also acknowledged that their intention to use was influenced by various internal and external stakeholders—but only by stakeholders who appear to demonstrate structural and institutional power. Lastly, the participants perceived a degree of locus of control over use, but only when external parties are either willing to provide a solution or are significantly involved in the provision and management. Our findings have both theoretical and practical implications.

1. Introduction

Small and medium-sized enterprise (SMEs) have been labelled the backbone of most economies around the world. For example, in the United States, the world's largest economy, SMEs account for nearly 50 percent of all jobs and nearly 44 percent of GDP (CIA World Factbook, 2022b). In Australia, the focus of our study, SMEs contribute to nearly 35 percent of GDP and constitute 41 percent of the total workforce, or the single largest employing sector (CIA World Factbook, 2022a). In fact, according to the OECD (OECD, 2021), SMEs are the predominant form of business and employment around the world. Given their prominence to global economic development and employment, SME strategy becomes critical. Yet there have been calls for SMEs to pursue more creative approaches to strategy that enable increased opportunities (Bengtsson & Johansson, 2014). One such pathway focuses on collaboration as collaboration

is believed to be increasingly vital to SME success (Gnyawali & Park, 2009; Martins et al., 2010).

The literature examining SME collaboration is fairly broad. Research has focused on SME collaboration in the context of climate change (Galbreath, 2015), entrepreneurial opportunities (Bengtsson & Johansson, 2014), improvement of go-to-market speed (McCutchen & Swamidass, 2004) and risk mitigation and technological innovation (Morris et al., 2007; Nieto & Santamaría, 2010), among others. Such studies demonstrate the criticality of collaboration among SMEs to improve their strategies and competitive positions. However, one area of SME collaboration that has received little attention is the area of transportation. This is surprising given that transportation is vital for market access, influences bargaining power, has considerable cost implications for SMEs and is needed for both inbound and outbound logistics (ACCC, 2019; ET Online, 2021; Martins et al., 2010; Purolator, 2016). Not examining trans-

a Corresponding author:

GPO Box U1987, Perth, Western Australia 6845
j.galbreath@curtin.edu.au
+61892663568 (v)

b GPO Box U1987, Perth, Western Australia 6845
kristina.georgiou@curtin.edu.au

c GPO Box U1987, Perth, Western Australia 6845
richard.oloruntoba@curtin.edu.au

portation misses an opportunity to advance an understanding of the strategic value of collaboration in a new context—and what might shape such a collaborative relationship. Hence, our research question is: to what extent is there intention among SMEs to engage with each other in the use of collaborative transportation solutions?

As a means to advance the literature, we make a three-fold contribution. First, while previous research has explored a variety of contexts related to SME collaboration, we specifically look at a functional requirement essential to conducting business; namely, transportation of product. In spite the fact that transportation is an important component of the business model and comprises a major cost (ACCC, 2019; Purolator, 2016), little known about how SMEs consider collaborative transportation, what the perceived benefits are, how decisions are shaped or the extent to which a sense of control is required to readily engage in such an approach. Hence, we extend SME research by investigation of a collaborative activity that may potentially be vital to strategic success.

Second, the study of collaborative transportation efforts among SMEs is nascent and open to a variety of methodological approaches. In our case, we take a qualitative, exploratory approach. Qualitative, exploratory approaches enable researchers to understand an issue more thoroughly—understanding the nature of the problem—before attempting to quantify findings into inferable data (Stebbins, 2001). Hence, to uncover meaningful findings, we rely on the theory of planned behaviour (TPB) (Ajzen, 1991). The TPB provides a guiding framework to investigate how participants gauge an intended behaviour—in our case, the intention of SMEs to collaborate on transportation solutions. The TPB is a well-validated decision-making model that serves the aims of our study well.

Lastly, according to some scholars, SMEs tend to treat transportation as something of a secondary activity as compared to larger firms (Lukka, 2004). Hence, our research makes practical contributions. For example, recent evidence suggests that many SMEs are reluctant to engage in exporting for many reasons, including a perception of the prohibitive costs and a lack of resources (Galbreath et al., 2018; Leonidou, 2004). However, if by collaborating, resources can be shared and costs reduced then exporting, and even expanded domestic transport of products, could become more attractive, opening up new markets and opportunities. Our research lays the groundwork for SMEs to judge if the potential value of collaborative transportation outweighs the drawbacks.

2. Theoretical Framework and Context

2.1. Adopted theoretical lens: Theory of planned behaviour (TPB)

In order to uncover meaningful findings, we adopt Ajzen's (1991) theory of planned behaviour (TPB) as our in-

vestigative lens because of the strategy-related managerial decisions that individuals must make when considering engagement in collaborative transportation. Further, given the exploratory nature of the study and the fact that collaborative transportation was not already in use, our focus was on discovering *intention* to use. Accordingly, the TPB seeks to understand why humans intend to engage in a given behaviour by considering three factors. First, an individual holds beliefs about the outcomes of the targeted behaviour and the evaluation of the outcomes (behavioural beliefs) (Ajzen, 1991). These beliefs can include both positive and negative feelings. Second, an individual evaluates the normative expectations of others to engage in a behaviour and the motivation to comply with these expectations (normative beliefs) (Ajzen, 1991). Lastly, an individual evaluates the factors that may facilitate or impede the intended action or behaviour and the power of such factors (control beliefs) (Ajzen, 1991). An evaluation of the three considerations by human decision-makers ultimately leads to the level of intention to engage in the targeted behaviour.

At the core, the TPB postulates that behaviour is ultimately controlled by intention (Ajzen, 1991). In some cases, intentions to carry out a behaviour may be abandoned altogether or revised to fit changing circumstances. Abandonment or revision usually occurs when outcomes of a targeted behaviour may be perceived as less desirable, the normative pressures of other actors to engage in the behaviour may be low or the impediments to engage in the behaviour are too high (Ajzen, 1991). Alternatively, when behavioural beliefs, normative beliefs and control beliefs align, intention to engage in a behaviour is expected to be high (Ajzen, 1991). From a research perspective, the TPB has become one of the most important models for predicting human behaviour, or intention to engage in a given action (Ajzen, 2011).

2.2. Our study context

For our study we chose the wine industry. Wine production is over 5,000 years old and has significant economic, employment and cultural influence around the world (Alonso et al., 2021). Today, production still tends to be dominated by so-called "Old World" producers (i.e. France, Italy, Spain), although in recent years "New World" producers such as Argentina, Australia, Chile and South Africa have made inroads (OIV, 2020). While wine production around the world consists of some large companies (e.g. Treasury Wine Estates), the industry is mainly made up of SMEs. In the case of Australia, the focus of this study, over 65 percent of the market consists of SMEs (Reeves, 2020).¹ As with other SMEs (Baum et al., 2000; Bengtsson & Johansson, 2014), most SME wine producers are challenged with limited resources and face cost and time constraints, and as a means to address such challenges, collaborative transportation is one potential pathway.

¹ Even this percentage is likely to be misleading—and higher. For example, large publicly listed companies in Australia such as Treasury Wine Estates and Casella Family Brands consist of many SMEs operating under their product portfolio umbrella.

In terms of a collaborative transportation solution, our research uncovered that no such solution was available at the time in the study location. Further, in discussions with the CEO of Wines of Western Australia (the peak body overseeing the wine industry in the State), there was no indication that any such solution had existed previously. However, we identified a few potential options through a brainstorming session. First, smaller wine producers could work together in a consortium in a given region or location to build purchasing power by increasing scale of shipments. By increasing scale, the consortium could seek to negotiate better pricing from transportation providers. Second, rather than wineries shipping their product on an individual basis, establish a single point of collection where several collaborative producers can work together to make available their wine for shipping based on agreed schedules (e.g. weekly or bi-weekly). As they do, they increase scale and could seek to create volume shipment purchasing from transportation providers. Third, for export markets, a collaborative group of wineries could ensure that a container is full prior to shipment and due to increased volume, seek a preferred international transportation provider to negotiate better rates for shipping. While such options are conceptually promising, the root of our study was to explore the following questions: 1) what are the underlying drivers and motivators of engaging in collaborative transportation?; 2) to what extent are decisions to engage in collaboration transportation influenced by others?; and 3) what are the mechanisms that underly perceived ease of use of a collaborative transportation solution?

3. Methods

3.1. Sample

The authors have been conducting research in the Australian wine industry for many years and, hence, have built a considerable contact list of producers. For this study, SMEs were targeted. SMEs in the Australian wine industry are generally those considered to be producing less than 20,000 cases annually (Galbreath, 2015). Because we were looking to conduct face-to-face interviews, we pragmatically limited the sample to our home region: Western Australia. Western Australia is particularly suitable as the wine industry here consists primarily of SMEs (Galbreath, 2015). To secure participants, targeted and purposive sampling was used (Gentles et al., 2015).

First, we contacted wine producers in our network with the objectives of the study and a request for participation. Second, we engaged Wines of Western Australia, the statutory body overseeing wine production in the state, and asked them to recruit participants via an email containing the objectives of the study. After a few weeks of recruitment, we secured 15 firms. We targeted mainly owners and managers at these firms for the interviews as such participants have decision-making and strategy responsibilities and would have the best knowledge and perspective regarding the objectives of the study. All firms produced less than 20,000 cases annually (which fit our SME criteria—Galbreath, 2015) and were located in the northern wine producing region of Sway Valley to the southernmost region,

the Great Southern (Table 1 and Figure 1). Hence, we secured a good cross-section of producers by location.

3.2. Approach to data collection

We relied on a qualitative approach to gain an in-depth understanding of the research questions. Qualitative approaches are ideal for research that seeks to understand human behaviour and to gain insight into people's reasons, opinions, motivations and thoughts (Creswell, 2018). In this way, an understanding could be built of the properly contextualised experiences of those being asked to think about collaborative transportation. Further, because we were not testing hypotheses, but rather sought to understand meaning behind participant views, a qualitative approach suited our research objectives well (Minichiello, 1990).

To collect data, interviews were used (Kvale, 1996). Interviews involve gathering rich and multi-layered information, allowing a few prepared, open-ended questions to form the skeleton of the interview, with additional questions emerging during the interview process (Bryman, 2016). By pre-determining some questions based on the guiding framework of the TPB contextualised to our study, the comparability of responses was increased and the interviewer's effects and biases reduced (Kitchin & Tate, 2000).

To build our semi-structured interview guide, we relied on the work of Francis et al. (2004). They offer an excellent guide to developing questions for the study of the TBP. Based on their insights, we constructed our semi-structured interview guide to conform to the objectives of the study and our research questions. We built an interview guide with questions that were framed in a neutral manner to reduce socially desirable responses (Singleton & Straits, 2005), and to avoid the presumption that the interviewers regarded a collaboration transportation solution as being either positive or negative.

Prior to the interview, the participants were given a brief description of the research project and the objectives of the study (Boyatzis, 1998). All participants gave formal consent as well as written or verbal permission for their interview to be digitally recorded. Most interviews lasted 45 minutes, although some were considerably longer. Interviews were delivered in a conversational style with probes used for further elaboration, exploration or verification of responses. A careful orthographic transcription was made of the interviews to accurately reproduce the semantic content of what each participant said (Gioia et al., 2012).

3.3. Analysis

To analyse the transcripts, an inductive coding process was followed (Bryman & Burgess, 1994). Inductive coding first relies on a close reading of the transcripts to understand 'informant-centric' information and insight (Gioia et al., 2012). Once interview transcripts were read, absorbed and notes taken, subsequently, codes were created that consisted of ideas, words, concepts, phrases or terms that appeared frequently within and between the transcripts. Because we relied on two coders, where discrepancies were found among the codes, they were discussed among the coders until resolved (Condie, 2012), from which we created first-order categories.

Table 1. Descriptives.

Position/Title of Participant	Location	Case Production Range	Coding Designation
Manager	Yallingup	1,500-2,499	P1
Owner	Yallingup	10,000-19,999	P2
Owner	Cowaramup	1,500-2,499	P3
Owner	Porongurup	2,500-4,999	P4
Owner	Waroona	1,500-2,499	P5
Owner	Dunsborough	10,000-19,999	P6
Owner	Wilyabrup	1,000-1,499	P7
Sales/marketing manager	Cowaramup	10,000-19,999	P8
Owner	Wilyabrup	5,000-9,999	P9
Co-owner	Margaret River	10,000-19,999	P10
Owner	Wilyabrup	10,000-19,999	P11
Owner	Swan Valley	5,000-9,999	P12
Owner	Newlands	2,500-4,999	P13
Owner	Yallingup	2,500-4,999	P14
Owner	Wilyabrup	5,000-9,999	P15



Figure 1. Western Australia wine regions.

In the process, we followed a recursive rather than a linear process; we moved iteratively between the first-order categories and emerging patterns until adequate conceptual themes emerged (Eisenhardt, 1989), from which second-order themes were identified. In the final stage of analysis, we relied on thematic analysis to structure the data in a presentable form by leveraging first-order categories (participant-based) with links and relationships among first-order

categories collapsed into second-order themes (researcher-based), from which final themes were developed that reflected the overarching patterns of meaning found in the data (Figure 2). The interpretive approach to thematic analysis attempts to determine the significance of the themes and their broader meanings and implications (Braun & Clarke, 2006).

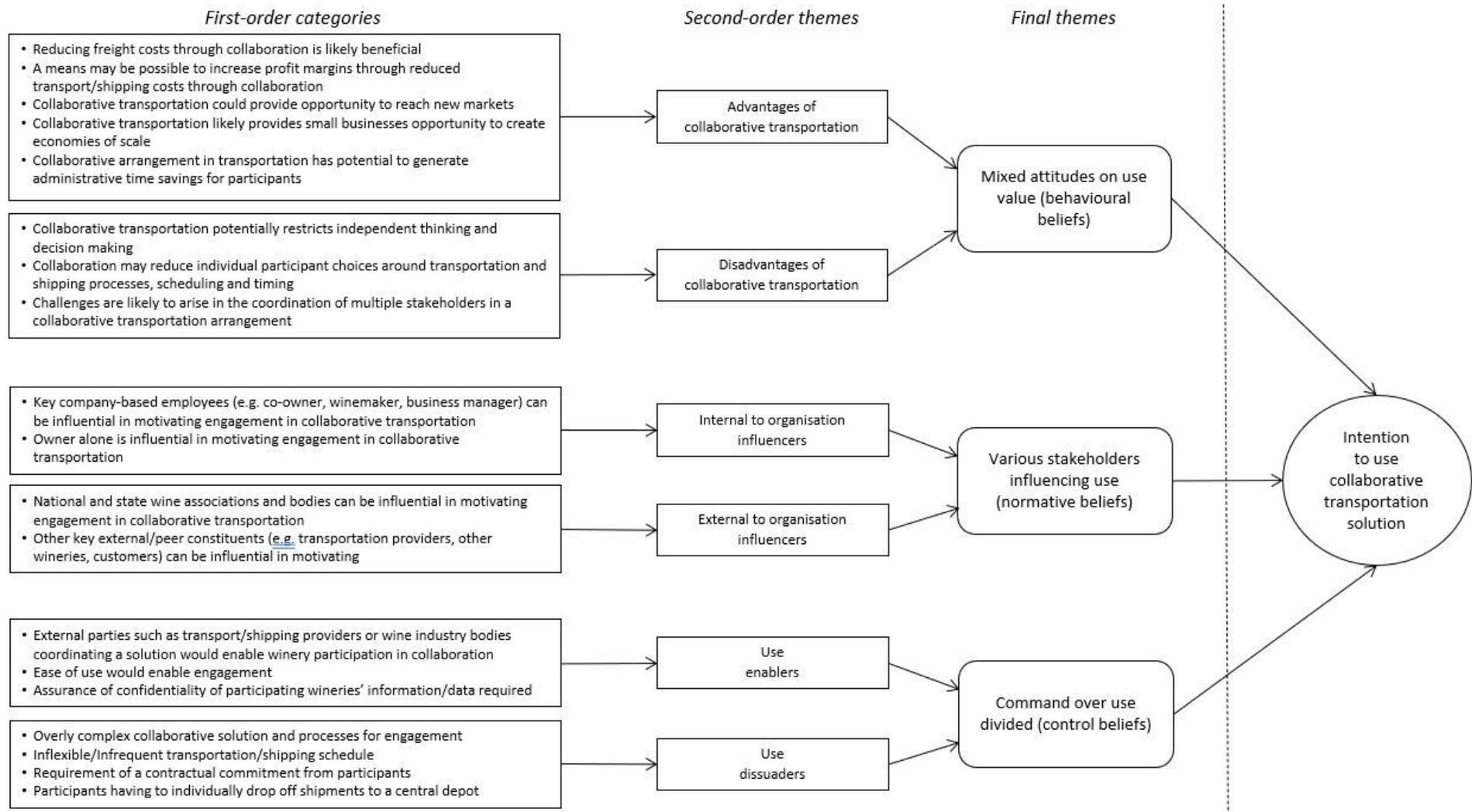


Figure 2. Data structure.

4. Findings

Three key themes emerged from the data. First, participants' attitudes (behavioural beliefs) towards use of collaborative transportation tended to be mixed. Participants believed that there were clear advantages to collaborative transportation, yet disadvantages or concerns seemed to temper the extent to which such a collaborative opportunity could provide overall benefits. Second, a variety of stakeholders were perceived as influencing the extent to which the participants would engage in collaborative transportation, yet these clustered around a few key influencer groups that appear to have a base of power. These included the normative influence of both key internal and external stakeholders. Third, while there were positive feelings towards self-efficacy, or control over the use of collaborative transportation, there were also some dissuaders that emerged from the data. The findings suggest that participants might have less than positive feelings regarding their ability to easily use a collaboration transportation solution. Representative quotes are presented in [Table 2](#).

4.1. Theme 1: Use value attitudes (behavioural beliefs)

Advantages

To engage in an intended behaviour, actors much first hold positive attitudes that outweigh the potential downsides (Ajzen, 1991, 2011). In our case, we identified that participants had somewhat mixed attitudes about the value of using a collaborative transportation solution. On the positive side, participants clearly recognised advantages. For example, engaging in collaborative transportation was believed to offer financial, efficiency or cost savings:

When it comes to your business that would mean your profit margins would increase if you could reduce the cost of that part of the freight because that's what you're all wanting. (P11)

Because at the end of the day, if you can reduce your freight costs, by combining it with other people, then that's an advantage. (P13)

Depending on quantities, there will be a matter of negotiation and discussion here of collaborating. And then gaining possible financial benefits. (P15)

In addition to costs savings and efficiency, some participants also suggested that collaboration could expand market reach and possibly reduce administrative time in shipping product orders. For example, Participant 6, reflecting on a collaborative transportation solution, stated "just the ability to reach new markets that you could not otherwise reach". The idea here was that as smaller wine producers work together on transporting their wine, the possibility to reach new markets (e.g. export markets) opens because of the increasing scale of shipments, which logistics providers favour from a freight rate perspective. Another participant noted that:

If a [collaborative] arrangement is in place and you know the structures are set up for it, you don't have to

go through all this hooah with, um, paperwork and all that sort of stuff. (P5)

Essentially, what Participant 5 suggested is that if a collaborative transportation solution is in place and is working well, the expectation is that administration complexity would be reduced—and time saved—which is an advantage to SMEs.

Disadvantages

While there were certainly positive attitudes towards a collaborative transportation solution, there were also identified downsides or potential disadvantages. For one, some of the participants believed that wine producers tend to think and operate very independently, which confirms previous findings from the SME literature (Gelinias & Bigras, 2004). Regarding their perception of using a collaborative transportation solution, Participant 8 said:

I can see a lot of issues. And it's purely based, predominantly, around personalities and opinions and egos. It's like kind of, you know, kind of like herding cats if you like. Trying to get wine producers to agree on anything.

Similarly, another participant said:

And that's going to be tricky, because it's already obvious that some people have already decided they'll do it their way. So, I'm not even sure if [collaborative transportation] is going to end up being something that everybody would agree on. (P15)

Other factors related to perceived disadvantages emerged around scheduling and timing. In other words, the extent to which an individual producer believed they would lose flexibility if they joined a collaborative effort. One participant noted:

The only disadvantages are there would be potentially compromise in terms of your own goals, in terms of timing and getting stuff somewhere. (P6)

Following this idea, Participant 10 believed that "Okay, so that would be the complexity there is where one person needs it at a different time frame, just trying to coordinate it". Another participant elaborated on a possible single point of collection solution for collaboration (where timing would be essential), and noted that, "Then the only disadvantage I could see is where [a collaborating producer] doesn't deliver something on time".

Lastly, our participants noted potential difficulties in the coordination efforts required to gain value from a collaborative transportation solution. One participant was clear:

But yeah, that would be the biggest challenge in a collaborative effort, is it's got to be a certain place by a certain time for this producer. How do you [coordinate] that producer, that producer, that producer and that producer? (P6)

Others expressed similar concerns. Participant 2 stated, "So, [it's] coordination. So, if there were these coordination difficulties, and there could be hold ups, which would be a problem, obviously. A disadvantage". Likewise, Participant

Table 2. Themes and representative quotes.

Final theme	Second-order themes	Representative data
<p>Mixed attitudes on use value (behavioural beliefs)</p>	<p>Advantages of collaborative transportation</p>	<p>I guess well obviously the first one is [cost] savings—because if you're sending a pallet of wine versus individual cases, economies of scale kick in. (P3) If a [collaborative] arrangement is in place and you know the structures are set up for it, you don't have to go through all this hooah with, um, paperwork and all that sort of stuff. (P5) When it comes to your business that would mean your profit margins would increase if you could reduce the cost of that part of the freight because that's what you're all wanting. (P11) Cost saving, or the assumption is that there's cost saving. (P12) Because at the end of the day, if you can reduce your freight costs, by combining it with other people, then that's an advantage. (P13) Depending on quantities, there will be a matter of negotiation and discussion here of collaborating. And then benefiting from possible financial benefits. (P15)</p>
	<p>Disadvantages of collaborative transportation</p>	<p>So, [it's] coordination. So, if there were these coordination difficulties, and there could be hold ups, which would be a problem, obviously. A disadvantage (P2) But yeah, that would be the biggest challenge in a collaborative effort, is it's got to be a certain place by a certain time for this producer. How do you [coordinate] that producer, that producer, that producer and that producer? (P6) The only disadvantages are there would be potentially compromise in terms of your own goals, in terms of timing and getting stuff somewhere. (P6) I can see a lot of issues. And it's purely based, predominantly, around personalities and opinions and egos. It's like kind of, you know, kind of like herding cats if you like. Trying to get wine producers to agree on anything. (P8) And that's going to be tricky, because it's already obvious that some people have already decided they'll do it their way. So, I'm not even sure if [collaborative transportation] is going to end up being something that everybody would agree on. (P15)</p>
<p>Various stakeholders influencing use (normative beliefs)</p>	<p>Internal to organisation influencers</p>	<p>The [opinion of] the financial controller is important. (P6) So, if the business manager wasn't happy with something or if she was like, "I don't think this model would be good", you would strongly consider that. (P11)</p>
	<p>External to organisation influencers</p>	<p>Other wineries would influence (P10) If [Wines of Western Australia] put it out there to the members, I think the majority of them would be saying, "Yes, let's do it". (P13) Wine Australia. I always read everything they send through. It's useful, so we are aware that [they] are trying to influence how we engage with different aspects of the business. (P15) Yeah, I'm sure with this sort of thing we tend to wait and see how it's working for other [wineries], maybe, if something does come about. (P15)</p>
<p>Command over use divided (control beliefs)</p>	<p>Use enablers</p>	<p>Ease of use would be important just because we're, cause there's not many of us and we're pretty time poor. (P1) So someone needs to take the lead on it to make it happen, it would need to be already set up and arranged so you could see it. (Participant 3) Would have to be an easy-to-use system for you to be involved, like just simple, straightforward. (P4) Again, if those parameters that we spoke about earlier, in other words, simplicity, you know, you can't see not using it. (P5) If Wine Australia can fund the coordination of this time schedule and have someone ultimately that they can go to, that's sitting at a desk, that can say, "Okay, when is this happening? How is this going?" They're talking with the freight forwarder and liaising with the producers, that would be great. (P6) The only issue I could see is it's reasonably commercially sensitive how much we sell in each market. Like, it's not polite conversation. I guess between mates, you know, I could probably pump someone for a bit of information, but there needs to be a level of confidentiality about</p>

Final theme	Second-order themes	Representative data
	Use dissuaders	what's funnelled through the whole thing. (P10) If it's too complicated. (P3) If you had to supply a certain amount, it may be prohibitive, because we're not big. We wouldn't be looking to move huge amounts to any one location. (P4) Dropping off to a main central depot...I suppose is a restrictive option, if you're then having to go, "Okay, well we're going to save some money here getting it up to Perth or the Eastern States. But now we must go to Cowaramup with our pallets, and we need someone with a truck to get it there. (P8) If it was too complex. (P11) Commit to a certain amount...I don't know, once a month, you know, this much over Easter. Whatever it is. Not sure we could do that (P12) Would you be prepared to look at a more complicated process if there were going to be cost savings? (P14) "How would you collaborate though timing-wise, is what I'm thinking"? You've got yours available to go tomorrow, you're not going to wait for freight companies who are doing the rounds and taking everybody's up next week, because we want [ours] to go tomorrow. (P15)

15 agreed, suggesting that “it’s logistics coordination [of a collaborative solution] that I can see as complicated”.

The findings suggest that there appears to be clear advantages for SMEs around collaborative transportation and that these largely coalesce around economic benefit, including costs savings, time savings and efficiency gains. In this sense, a ‘liability of smallness’ (Baum et al., 2000) can be overcome by SMEs in the area of transportation. However, overcoming a liability of smallness may be complicated. Our findings suggest that wine SMEs tend to be very independent (if not protective) and hence mental models and a culture that favours collaborating with others may be difficult to achieve. Unless a solution is provided that overcomes expressed concerns or disadvantages (which we address later), collaboration among wine SMEs is likely to be limited, undermining potential economic benefits and gains for the industry—and individual wineries.

4.2. Theme 2: Stakeholder influence (normative beliefs)

Internal stakeholders

According to the TPB, focal actors can be influenced by others in terms of whether they will or will not engage in a targeted behaviour (Ajzen, 1991, 2011). In other words, there are normative influences on the attitudes of the focal actor. In our case, emergent findings clustered around important internal and external influences. When questioned about who in and around their businesses could influence and motivate engagement in a collaborative transportation solution, many participants identified internal stakeholders. For example, for some, the business manager was seen as important because they control the ‘purse strings’:

So, if the business manager wasn't happy with something or if she was like, "I don't think this model would be good", you would strongly consider that. (P11)

The purse string perspective was backed up by Participant 6, who stated, “The [opinion of] the financial con-

troller is important”. Other examples of vital or important internal stakeholders who are seen as influencing use of a collaborative transportation solution include co-owners in the business (P2, P5, P7, P8, P11), marketing staff (P12) and winemakers (P1, P3, P8). We note that such internal stakeholders do not appear to be random in our sample. In other words, persons in position of authority within firms or who have political power tend to be those closer to the top or who have higher visibility roles (Finkelstein, 1992). Hence, our findings suggest that internal stakeholders with power and influence warrant the most attention and are likely to impact on decisions to collaborate around transportation.

External stakeholders

In addition to internal stakeholders, there was also clear recognition of the potential influence of external stakeholders. Australia has a long history of a national statutory body, Wine Australia, overseeing the wine industry and participants identified their influence:

Wine Australia. I always read everything they send through. It's useful, so we are aware that [they] are trying to influence how we engage with different aspects of the business. (P15)

In addition to Wine Australia, some of our participants also recognised the influence of Wines of Western Australia, the state statutory body. Participant 13 noted, "if [Wines of Western Australia] put it out there to the members, I think the majority of them would be saying, “Yes, let’s do it”. Others related more to fellow wineries as influencers. One participant took a seemingly cautious approach with respect to influencers and their attitudes about engaging in a collaborative transportation solution. They stated:

Yeah, I'm sure with this sort of thing we tend to wait and see how it's working for other [wineries], maybe, if something does come about. (P15)

Others were more definitive about their competitors. Participant 10 said, “Other wineries would influence”. In

addition to other wineries, a few noted that if transportation providers offered a collaborative solution, that would influence their intention to use (P6, P8), or else the influence of customers who may be demanding greater volume (P13).

The findings tend to follow the logic of the TBP. That is, human behaviour is influenced by others and intention is subject to normative beliefs (Ajzen, 1991). In our case, a decision to engage in collaborative transportation does not appear to be made in vacuum. Yet, internal influencers tended to be those in positions of power or those who control key aspects of the business in their own right. Externally, there was clear evidence suggesting the influence of institutions on decisions to engage in collaborative transportation, such as those peak bodies that oversee the wine industry in Australia either nationally or at a state level. As such influences converge, there appears to be greater emphasis on intention.

4.3. Theme 3: Ease of use (control beliefs)

The Australian wine industry has been noted for its ability to innovate (Aylward, 2007). Such innovations have included bag-in-box packaging, winemaking techniques (e.g. control of pH), refrigerated control of fermentation temperatures, reductive winemaking and the screwcap closure, among others (Wine Australia, 2016). Hence, we intuitively thought that participants in our study would likely view collaborative transportation as an opportunity to innovate to improve their businesses. And they did—to a point. Interestingly, a ‘can do’ spirit was there, but mainly in the context of others providing a solution. In a sense, innovation was seen as something that would need to be largely externalised, with other entities providing a solution. This attitude was most prominent in the context of use enablers.

Use enablers

The final theme reflects control beliefs, or the extent to which participants perceived that they would have control, or command, over the intended behaviour. A few aspects became clear from the data. For one, participants believed that they would more readily engage in a collaborative transportation solution, or have more control over use, if external parties led or coordinated and managed the effort. For example:

If Wine Australia can fund the coordination of this time schedule and have someone ultimately that they can go to, that’s sitting at a desk, that can say, “Okay, when is this happening? How is this going?” They’re talking with the freight forwarder and liaising with the producers, that would be great. (P6)

In addition to an external party such as Wine Australia, others noted that logistics providers would have a role. Participant 11 stated, “if the freight companies already had a model”. Echoing this view, “So someone needs to take the lead on it to make it happen, it would need to be already set up and arranged so you could see it” (Participant 3).

Another clear pattern that emerged regarding control beliefs related to ease of use. One participant noted, “ease of use would be important just because we’re, cause there’s

not many of us and we’re pretty time poor” (P1). Similarly, Participant 4 stated, “And, would have to be an easy-to-use system for you to be involved, like just simple, straightforward”. Lastly, one participant confirmed:

Again, if those parameters that we spoke about earlier, in other words, simplicity, you know, you can’t see not using it” (P5).

One final enabler revolved around confidentiality. More specifically, the view that guaranteed confidentiality would be a use enabler. Participant 10 said:

The only issue I could see is it’s reasonably commercially sensitive how much we sell in each market. Like, it’s not polite conversation. I guess between mates, you know, I could probably pump someone for a bit of information, but there needs to be a level of confidentiality about what’s funnelled through the whole thing.

Use dissuaders

On the reverse side, participants also identified several issues that would potentially dissuade them from using a collaborative transportation solution. In other words, factors that would lessen the extent to which users perceive they have control over use. For one, complexity would be problematic. “If it’s too complicated” (P3). “If it was too complex” (P11). “Would you be prepared to look at a more complicated process if there were going to be cost savings?” (P14). Another recurring theme that surfaced included potential loss of flexibility. Largely, this had to do with scheduling and timing of shipments. For example:

How would you collaborate though timing-wise, is what I’m thinking? You’ve got yours available to go tomorrow, you’re not going to wait for freight companies who are doing the rounds and taking everybody’s up next week, because we want [ours] to go tomorrow. (P15)

Lastly, we also uncovered participants expressing use dissuaders that included contractual commitments and problems with central point collection. Regarding contractual, or supply commitments, “if you had to supply a certain amount, it may be prohibitive, because we’re not big. We wouldn’t be looking to move huge amounts to any one location” (P4). Or “commit to a certain amount...I don’t know, once a month, you know, this much over Easter. Whatever it is. Not sure we could do that” (P12). On the collection side, there was expressed concerns of control beliefs. Participant 8 said:

Dropping off to a main central depot...I suppose is a restrictive option, if you’re then having to go, “Okay, well we’re going to save some money here getting it up to Perth or the Eastern States. But now we must go to Cowaramup with our pallets, and we need someone with a truck to get it there”.

This sentiment is echoed by Participant 4, who stated, “bottom line is, because of our isolation, even getting things to a central location is not easy. So, even just getting stuff to Perth, we still have to transport it ourselves”.

The findings tend to demonstrate the nature of wine producers: they are experts in wine production—not in ship-

ping or transportation. That is, wine producers are not in the shipping or transportation business. Rather, they focus their scarce time, energy, resources and expertise in producing wine not on running shipping or transportation businesses. In this sense, the transaction costs of having to manage a potentially complex collaborative transportation solution *themselves* seems to be beyond the comfort zone (cf. Williamson, 1985). While the innovative spirit of the Australian wine industry is noted, our results suggest that this spirit may extend only so far; namely, within the confines of grape growing and making wine. While there is some logic to this perspective, the TPB does note that unless there is a high perceived self-efficacy or control over a behaviour, intention is dampened. In our case, perceived control appears to be related to collaborative solutions that are in part—or in whole—provided or managed by *others*.

5. Conclusions

Collaboration is believed to be a vital strategy for SMEs (Bengtsson & Johansson, 2014; Gnyawali & Park, 2009; Granata et al., 2018). However, we identified a gap in the literature where research has yet to adequately explore collaboration among SMEs in the area of transportation. As transportation generally involves the largest logistics costs and challenges for SMEs (Purolator, 2016), we sought to uncover the extent to which SMEs might consider collaborating with respect to their transportation needs. Relying on the TPB and a sample of SME wine firms operating in Western Australia, we make few key contributions.

5.1. Theoretical contributions

From a theoretical perspective, we extend previous SME collaboration research. Previous research in the stream has relied on several theoretical lenses, including transaction cost economics (Quintana-García & Benavides-Velasco, 2004), resource-based and game theory (Ritalia, 2012), the theory of synergy (McCutchen & Swamidass, 2004), cluster or agglomeration theories (Galbreath, 2015) and knowledge-based and learning theories (Dussauge et al., 2000). Such studies are grounded in empirics and statistical testing of relationships between variables. We took a different approach. Human behaviour, and the actions humans take, is understood best in terms of the degree or extent to which they perceive value from a given behaviour—or use value (Ajzen, 1991, 2011). To ground our findings based on the TPB, the conditions under which wine producers would engage in a collaborative transportation solution is presented in [Figure 3](#). The grounded model reveals a few key insights.

First, our research suggests that collaborative transportation use value is largely framed in self-interested economic terms. Self-interest is a powerful human behaviour and motivator in business (Fama & Jensen, 1983). Whether cost savings, revenue growth or improved efficiency (e.g. time savings) is considered, collaborative transportation is seen as valuable so as long as actors perceive an economic benefit in the effort. Interestingly, social minded or socially responsible benefits do not seem to garner use value in this study, nor does moral or ethical value in the context of larger industry benefits (e.g. reducing overall emissions in transportation, developing green

industry credentials in the area of transportation), even though environmental issues such as climate change have been acknowledged in the Australian wine industry (Galbreath, 2014, 2015). While we do not discount the moral or ethical values of participants, the limited resources, time constraints and imperative to turn a profit among SMEs may be driving an overt focus on the economic self-interests of collaborative transportation over ones that have socially responsible benefits.

Second, human behaviour is believed to be influenced by conditional factors, including other humans and institutions (Ajzen, 1991). For example, some theories argue that business decisions are largely driven by stakeholder (e.g. customer) or institutional (e.g. governmental) influences (DiMaggio & Powell, 1983; Mitchell et al., 1997). Relative to our context, stakeholders vary widely in their importance and the perceived level of pressure they can exert on decision makers. Accordingly, stakeholder theory asserts that decisions makers respond to those stakeholders who are believed to have power, legitimacy or urgency (Mitchell et al., 1997). Our findings suggest that internal stakeholders appear to demonstrate a pattern of influence related to power. Power is manifested by roles or functions, which ties such internal stakeholders to the control of critical aspects of the business including finances, marketing and winemaking. In this way, the structural power of internal stakeholders appears to be an influence on decisions to engage in collaboration transportation (Finkelstein, 1992). Alternatively, while external influences did include competitors, they were largely framed in the context of powerful institutions, including peak bodies that oversee the wine industry at state and national levels. Here, due to the increasingly centralised control of many aspects of the wine industry in Australia (Aylward, 2007), we theorise that a cultural norm has emerged that sees wine SMEs looking to or expecting institutions to provide or support business model transformation such as collaborative transportation solutions. While such an expectation may prove useful—providing that institutions act—the individual innovation efforts of wineries could be undermined. In this way, we demonstrate the normative postulates of the TPB in a relatively new context.

Lastly, humans are generally risk adverse (Kaplan & Mikes, 2012). In fact, the TPB posits that only when humans believe that they have a high degree of control use will demonstrate intention (Ajzen, 1991, 2011). In other words, behavioural choice is predicated upon humans believing that they will be able to engage in an action through high locus of control while minimising risk. In our case, emergent findings suggest that industry is a key driver of a collaborative transportation solution. In one sense, this is surprising. Australian wine producers are known for their innovative nature and hence one might expect that they would willingly engage in establishing and running a collaborative transportation solutions amongst themselves—where benefits can be realised. By establishing and running a collaborative transportation solution among themselves the expectation is that a high degree of control would be achieved.

From an alternative perspective, wine producers are not in the business of transportation—they are in the business

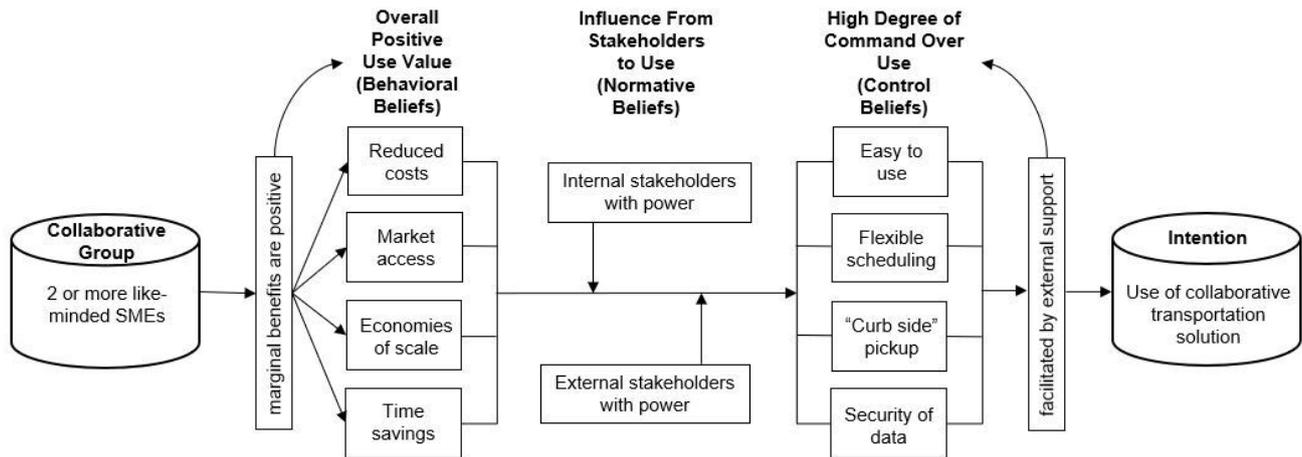


Figure 3. Grounded model.

of making wine. Transaction cost economics (TCE) theory suggests that firms minimise on transaction costs to create advantages (Williamson, 1985). Hence, there is an argument that the participants in our study recognise that while the benefits of a collaborative transportation are positive, the best way to achieve such benefits are to minimise transaction costs by relying on external providers (e.g. logistics and transportation providers and peak industry bodies such as Wine Australia) to make available a collaborative solution that is easy to use, flexible and offers data privacy. As this happens, wine producers increase their perceived use control. In theory, wine producers therefore increase their intention to use.

5.2. Managerial implications

Practitioners in the wine industry have to determine if the benefits of collaboration outweigh the costs and whether or not the time and effort to commit to this pathway offers a competitive advantage. In Australia, for example, the recent trade wars with China have severely impacted the wine industry in terms of sales and relative advantages that this country has enjoyed in the Chinese market (Wine Australia, 2022). As many wine producers scramble to find new markets and attempt to overcome sunk costs, collaborative transportation could be an option. Previous studies in the wine industry suggest that collaboration can create advantages around revenue growth and market share (Borsellino et al., 2020), firm performance (Granata et al., 2018), knowledge transfer (Galbreath, 2015) and internationalisation (Monticelli et al., 2018). Alternatively, other research findings suggest that collaboration, while important at certain stages (e.g. wineries building market prestige), can be rendered as more superfluous once goals or objectives are met (Taplin, 2010). Further, some cooperation among wine producers can be supplanted by competition as advantages are sought in attracting top winemaking talent and to differentiate product according to *terroir*, or site-specific characteristics (Taplin, 2010).

In our context, there do appear to be advantages to collaborative transportation that wine practitioners should consider. For example, in one scenario, we determined that

a collaborative group could realise cost savings of up to AU\$50 per case on the transportation of wine, depending on the destination (savings of this magnitude largely apply to export markets). Further, when exporting, discussions we held with transportation and logistics providers suggests that there are cost savings of 50 percent (or more) when transporting a full container load as compared to a container with only one or two pallets. Hence, there does appear to be cost advantages which is in line with the expectations of our participants, which could lead to other advantages such as flow on investment opportunities in new markets or products.

In light of these positive scenarios, the practical side of engaging in collaborative transportation appears less than simple. That is, we uncovered several perceived ‘stumbling blocks’ such as complexity of the solution, inflexibility of scheduling, confidentiality of data, contractual requirements and central point collection. Given that wine production tends to be localised and tied to regional clusters (e.g. Galbreath, 2015; Taplin, 2010), we suggest that wine practitioners consider their regional cluster as a starting point for collaborative transportation. This is because wineries in regional clusters are already likely to have established relationships and contacts with each other (Taplin, 2010). However, given that SMEs are time and resource poor (Baum et al., 2000; Bengtsson & Johansson, 2014), insights from this study suggest the vital involvement of supporting body associations as a “coordinating mechanism” for collaboration in transportation—if not providing levels of funding to develop a solution. Clearly, based on our findings, collaborative transportation is unlikely to be an “out of the box” solution and industry and supporting body associations must work together to establish a pathway forward.

5.3. Limitations and future research

This study is not without limitations. First, we rely on a sample of SMEs from a specific region in a specific country. Results could vary elsewhere. Future research could explore collaborative transportation in other wine regions (or in other industries) in other countries of the world. Second, we rely on a qualitative approach. While the findings, based on

the TPB, uncover well various aspects that underly the intention to use a collaborative transportation solution, other approaches could be used to expand our findings. For example, use of qualitative methods (e.g. survey) to build on and empirically examine some of the potential relationships uncovered in our findings. Use of our grounded model (Figure 3) could serve as a guide. Lastly, while we have studied SME wine producers in Western Australia, future studies could explore the logistics side of the industry through interviews or surveys of logistics service providers to garner their views and opinions about the supply/transportation side, or their intention to provide a collaborative transportation solution.

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Conflicts of interest

The authors declare no conflicts of interest

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