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Trust and the tendency towards multi-unit franchising: A relational governance view

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ABSTRACT

Previous research mainly focused on the agency-theoretical explanation of multi-unit franchising (MUF). The aim of this study is to develop a relational governance perspective of MUF by investigating the role of knowledge-based trust and general trust in franchisor's choice between multi-unit and single-unit franchising. Our data from the German franchise sector indicate that knowledge-based trust positively influences and general trust negatively influences the franchisor's tendency towards multi-unit franchising.

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1. Introduction

Franchising is a complex governance form and franchisors have to choose among various ownership strategies within franchising (Bradach, 1997; Garg, Rasheed, & Priem, 2005; Hussain, Perrigot, Mignonac, El Akremi, & Herbach, 2013; Kaufmann & Dant, 1996; Weaven & Frazer, 2007). When the franchisors build their franchise network, they have to make an important decision regarding the use of single-unit franchising (SUF) and multi-unit franchising (MUF). SUF refers to the traditional "one franchisee–one outlet" format whereas MUF refers to an arrangement in which one franchisee can own two or more outlets in the same franchise system. They have to strike a balance between SUF and MUF (Grünhagen & Mittelstaedt, 2005). The majority of franchise chains use MUF, and more than half of all franchised outlets are owned by multi-unit franchisees (Gomez, Gonzalez, & Vazquez, 2010). The aim of this paper is to extend the agency-theoretical view of MUF by complementing it with a relational governance perspective. Specifically, we investigate the impact of trust as relational governance variable on the franchisor's choice of MUF.

Most previous studies on MUF apply agency-theoretical perspectives (e.g., Garg & Rasheed, 2003; Garg et al., 2005; Gillis, McEwan, Crook, & Michael, 2011; Gomez et al., 2010; Hussain, Moritz, & Windsperger, 2012; Kalnins & Lafontaine, 2004; Kalnins & Mayer, 2004; Perryman & Combs, 2012; Weaven, 2009). The major findings of the existing research suggest that MUF can reduce a number of agency problems between franchisors and franchisees (Blair & Lafontaine,

2005). Recently, Gomez et al. (2010) show that franchisors use MUF as an incentive mechanism that helps to reduce the adverse selection and moral hazard risk involved in SUF. In addition, Jindal (2011) argues that franchisors use MUF to reduce the cost of internal hierarchy, hence shifting the burden of monitoring to the multi-unit franchisees, as they are better motivated to reduce monitoring costs than company-employed monitors. Gillis et al. (2011) argue that franchisors use multi-unit franchising as a reward in a tournament to reduce agency problems. The prospect of rewarding franchisees with additional units mitigates adverse selection and monitoring problems. Moreover, Perryman and Combs (2012) develop an expanded agency-based theory of ownership patterns of franchise firms by explaining co-location of company-owned and franchised outlets, and the franchisor's use of MUF through agency cost and symbiotic advantages.

According to the relational governance view, trust is an important informal governance mechanism in inter-firm relationships (e.g., Cannon, Achrol, & Gundlach, 2000; Dyer & Singh, 1998; Gulati, 1995; Heide & John, 1992; Lee & Cavusgil, 2006; Lui, Ngo, & Hon, 2006; Macneil, 1983; Palmatier, Dant, & Grewal, 2007; Poppo & Zenger, 2002; Weitz & Jap, 1995; Zaheer & Venkatraman, 1995). Although several studies have investigated the role of trust in franchise relationships (e.g., Cochet, Dormann, & Ehrmann, 2008; Croonen, 2008, 2010; Croonen & Brand, 2013; Dant, Weaven, Baker, & Jeon, 2013; Davies, Lassar, Manolis, Prince, & Winsor, 2011; Dickey, McKnight, & George, 2008; Gorovaia & Windsperger, 2014; Herz, Hutzinger, Seferagic, & Windsperger, forthcoming; Mumdzhev & Windsperger, 2013), no study examines the relationship between trust and ownership in franchise networks. In this study, we present a relational governance explanation of MUF by examining the impact of trust on the franchisor's choice of MUF. Based on Yamagishi and Yamagishi (1994), we differentiate between knowledge-based trust and general trust and argue that both have a different impact

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on the franchisor's choice of ownership strategy. MUF as screening device is positively related with knowledge-based trust and MUF as control device is negatively related with general trust. We test the hypotheses with data from 137 franchise systems in Germany.

The main contribution of this study is to complement the agency-based explanations of MUF by developing a relational governance perspective. Specifically, in addition to the influence of agency-theoretical variables, we examine the incremental explanatory power of trust as relational governance variable on the franchisor's choice between SUF and MUF. We show that trust strongly impacts the franchisor's choice of MU-ownership strategy. Second, we also contribute to the relational governance literature on inter-firm alliances by highlighting that trust must be differentiated in two major dimensions – general and knowledge-based trust – which have different impacts on the choice of MUF. General trust has a negative impact on MUF, due to its relational risk reducing effect, and knowledge-based trust has a positive impact on MUF, due to its screening effect. This result has implications for the management of franchising networks. Franchisors with a high level of general trust should be inclined to decrease the use of MUF as control device, and franchisors with high knowledge-based trust should be inclined to increase MUF as screening device.

The paper is organized in six sections. In the next section, theory and research hypotheses are developed. Sections 3 and 4 present the research methodology and the results of the regression analysis. Section 5 discusses the results, their implications and limitations of the research. Section 6 presents the conclusion.

2. Theory and hypotheses

2.1. The concept of trust

Trust can be defined as a “willingness to rely on another party and to take action in circumstances where such action makes one vulnerable to the other party” (Doney, Cannon, & Mullen, 1998, p. 604; Mayer, Davis, & Schoorman, 1995). Recent research results on inter-firm alliances show that trust is an important informal governance mechanism leading to higher relational rents due to savings of transaction costs and/or an increase of transactional value (Bradach & Eccles, 1989; Dahlstrom & Nygaard, 1996; Dyer & Chu, 2003; Dyer & Singh, 1998; Ganesan, 1994; Gulati, 1995; Gulati & Nickerson, 2008; Gulati & Sytch, 2008; Poppo & Zenger, 2002; Zajac & Olsen, 1993). However, the trust concept used in this research stream is heterogeneous. This heterogeneity mainly results from the multidisciplinary focus of trust research that considers trust as multi-faceted concept (e.g., Chua, Ingram, & Morris, 2008; Colquitt, Scott, & LePine, 2007; Fehr, 2009; Kramer, 1999; Mayer et al., 1995; McKnight & Chervany, 2006; McKnight, Choudhury, & Kacmar, 2002; McKnight, Cummings, & Chervany, 1998; Naef & Schupp, 2009; Robert, Denis, & Hung, 2009; Williamson, 1993). However, the various types of trust can be differentiated into two main facets (Ashraf, Bohnet, & Piankov, 2006; Yamagishi, 2011; Yamagishi & Yamagishi, 1994): Knowledge-based trust and general trust. Knowledge-based trust is based on “information accumulated over a ... history of interactions with the partners” (Yamagishi, 2011; Yamagishi & Yamagishi, 1994, p.194) and hence it depends on the contextual situation of the interaction (Droege, Anderson, & Bowler, 2003). On the other hand, general trust exists without having an interaction history with the trustee and is mainly influenced by the trustor's personality traits and the cultural context (Jarvenpaa, Knoll, & Leidner, 1998; Nannestad, 2008). In the following, we examine the impact of trust on the franchisor's choice of MUF by differentiating between the two types of trust, i.e., general trust and knowledge-based trust.

2.2. Knowledge-based trust and MUF

Knowledge-based trust refers to trust that evolves over a period of repeated interactions with an exchange partner. It has a cognitive effect

by increasing the trustor's knowledge base about the trustee, derived from the interaction history (Droege et al., 2003; Gassenheimer, Baucus, & Baucus, 1996; Larson, 1991; Yamagishi & Yamagishi, 1994). Repeated positive interactions signal credibility and fairness and hence increase the ‘relationship-specific’ reputation and trust in the exchange partner (Anderson & Weitz, 1989; Brown, Falk, & Fehr, 2004; Doney & Cannon, 1997; Ganesan, 1994; Robert et al., 2009). In addition, high-reputation partners are more likely to be chosen as future interaction partners (Fehr, 2009). Therefore, agents are likely to decide new partnerships on the basis of the knowledge about their potential partners' reputation (Beuve & Saussier, 2011; Calzolari & Spagnolo, 2009; Fu, Hauert, Nowak, & Wang, 2008; Gilson, Sabel, & Scott, 2009).

Applied to the franchisor–franchisee relationships, the franchisor's positive experience with franchisees during the contract relationship signals high credibility and fairness, thereby increasing franchisees' reputation and hence franchisor's trust in his/her network partners. When the franchisor has positive experience with the franchisees, he/she has a high level of trust in his/her partners and will more likely select them as MU franchisees. In this case, the franchisor uses sequential MUF as a reward strategy to screen the franchisees according to their reputation, based on credibility and fairness shown in prior interactions. Therefore, franchisees' reputation provides the information base for the franchisor's selection of new MU franchisees (Gillis et al., 2011)¹. This is compatible with Bradach's view: “Growing through existing franchisees overcame the main constraint associated with adding new franchisees – the risk that a person would be difficult to work with” (Bradach, 1995, p. 73). Hence, we can formulate the following hypothesis:

H1. Franchisor's knowledge-based trust will positively impact his/her use of MUF.

2.3. General trust and MUF

General trust means that an individual has a positive view of the others and considers the others as trustworthy, even if he/she has no experience with those other people (Yamagishi & Yamagishi, 1994). Therefore, general trust leads to the perception of lower relational risk by the trustor (Das & Teng, 2004). Applied to the franchisor–franchisee relationship, under a high level of general trust the franchisor perceives lower relational risk and hence lower agency and monitoring costs under given exchange hazards, which results in a lower propensity of the franchisor to control the franchise partners. This is compatible with the substitutability perspective of formal and relational governance in inter-firm alliances (Cavusgil, Deligonul, & Zhang, 2004; Gulati, 1995; Macaulay, 1963; Nooteboom, Berger, & Noorderhaven, 1997; Wang, Yeung, & Zhang, 2011). When applied to the choice between single-unit and multi-unit franchising, the franchisor with a higher propensity of general trust perceives a lower level of relational risk and hence expects lower agency and monitoring costs when selecting new network partners, under given exchange hazards. Therefore, he/she does not require setting up a larger monitoring capacity by using more MU franchisees in the franchise system. Hence we derive the following hypothesis:

H2. Franchisor's general trust will negatively influence his/her use of MUF.

In conclusion, the effects of general and knowledge-based trust on the franchisor's choice of MUF can be stated as follows: The higher the franchisor's knowledge-based trust and the lower his/her general trust, the higher is the franchisor's propensity to use MUF. This is

¹ In e-commerce, the evaluation of the reputation of exchange partners is important where the transaction partners use reputation systems to screen the exchange partners (e.g., Jönsang, Ismail, & Boyd, 2007; Shmatikov & Talcott, 2005; Wang & Vassileva, 2007).

illustrated by comparing four cases (see Table 1): (1) If the franchisor has a low level of knowledge-based trust and a high level of general trust, the tendency towards MUF is relatively low, because he/she has no inter-organizational experience with potential franchisees and perceives relatively low relational risk and agency problems when entering into single-unit franchise relationships. (2) If the franchisor has both a high level of general and knowledge-based trust, the tendency towards MUF results mainly from its screening effect. In this situation, the franchisor perceives relatively low relational risk and agency problems with his/her SU franchisees, and the reputation of the existing franchisees functions as screening device to select new MU-franchisees. (3) If the franchisor has both a low level of general and knowledge-based trust, the tendency towards MUF is mainly based on its relational risk reducing effect. In this situation, the franchisor perceives relatively high relational risk with SU franchisees, due to the low level of general trust. (4) If the franchisor has a low level of general trust and a high knowledge-based trust due to the positive interaction experience with the franchisees, the tendency towards MUF as screening and control mechanism is relatively high. Both the perception of high relational risk and of franchisees' high reputation for credibility and fairness increase the use of MUF, compared to case (2) and (3).

In addition to the main effects of trust, we expect that the interaction between general and knowledge-based trust will influence the franchisor's choice of MUF. A franchisor with low general trust may evaluate the knowledge generated by a positive interaction history with franchisees more important for the use of MUF than a franchisor with high general trust. Therefore, the positive impact of knowledge-based trust on the use of MUF will be stronger for franchisors with low general trust than for franchisors with high general trust. Conversely, it could be assumed that the negative impact of general trust on MUF will be stronger when franchisors' knowledge-based trust is low. Hence we can formulate the following hypothesis:

H3. The interaction between general and knowledge-based trust will influence the franchisor's use of MUF.

3. Methodology

3.1. Data

Empirical data to test the hypotheses were collected from the German franchise sector. The directory of the German Franchise Federation (DFV) and "Franchise Wirtschaft" (a Bond's Franchise Guide type directory published in Germany) list all franchise systems operating in the country. Various demographic data (i.e., year system was established, number of outlets, business sector) about each system is also listed in the "Franchise Wirtschaft". These directories list 837 franchise systems operating in Germany and served as the sampling frame for this study. The judgmental sampling was employed and the sample was drawn on the basis of the following two criteria: (1) The system should have at least five outlets in Germany. (2) If the data about the outlets are not listed in the directory, the system should have started franchising in Germany before year 2008. The final sample consisted of 491 franchise systems.

The data were collected via a self-administered questionnaire which was developed in several steps. After several preliminary refinements,

Table 1
Impact of trust on MUF.

	Low general trust	High general trust
Low knowledge-based trust	(3) HIGH tendency to MUF (mainly as control mechanism)	(1) LOW tendency to MUF (as screening and control mechanism)
High knowledge-based trust	(4) HIGH tendency to MUF (as screening and control mechanism)	(2) HIGH tendency to MUF (mainly as screening mechanism)

we conducted in-depth interviews with franchise professionals from the Austrian and German franchise associations and a pre-test with 20 franchisors in Austria. The respondents were selected on their expertise and relevance to the subject under investigation. This demonstrates the use of the key informant (McKendall & Wagner, 1997) approach for data collection. Accordingly, the key informants for this study were senior managers who are mainly responsible for the franchise expansion. The information about the key informants was retrieved from the "Franchise Wirtschaft". The personally addressed questionnaires were mailed to the key informants of all 491 relevant franchise systems in Germany. We received back 137 filled questionnaires with a response rate of 28%. However, due to missing values, only 110 responses could be used for the regression analysis.

To check for the non-response bias, we used two methods. First, non-response bias was estimated by comparing early versus late respondents (Armstrong & Overton, 1977), where late respondents serve as proxies for non-respondents. Second, the respondents were compared to non-respondents in terms of age, size, advertising fee, and royalties to determine whether non-response was a serious problem for the data. These variables are available in the 'Franchise Wirtschaft' for the entire listed systems. We used these data to run an independent sample *t*-test in order to check whether the sample is representative. We found no significant difference between the respondents and the non-respondents (see Table 2). Furthermore, we checked for common method bias by applying Harman's single-factor test. Common method bias could not be corroborated (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

3.2. Measurement

3.2.1. Dependent variable

The dependent variable, the tendency towards multi-unit outlets (MUF), is measured as a ratio of the franchised outlet to the number of franchisees. A similar ratio has been used in previous studies as an indicator for MUF (Gomez et al., 2010).

3.2.2. Predictor variables

All latent variables in the regression analysis are measured as mean scores.

3.2.2.1. Trust. We conducted a factor analysis, which resulted in a two factor solution: Knowledge-based trust and general trust (KTRUST, GTRUST). Table 3 presents the results of the factor analysis.

3.2.2.2. Knowledge-based trust (KTRUST). In line with Anderson and Narus (1990), Yamagishi and Yamagishi (1994) and Dyer and Chu

Table 2
Estimate of non-response bias^a.

	Means, SD, and counts ^b		t-value	p-value
	Population	Respondents		
Age of franchise system (years)	10.102 (8.122) N = 449	11.190 (8.391) N = 121	-1.298	0.195
System size (total outlets)	112.718 (431.444) N = 337	155.949 (328.376) N = 118	0.992	0.322
Advertising fee (% of sales)	1.002 (1.497) N = 326	0.930 (1.342) N = 127	-0.478	0.633
Royalties (% of Sales)	4.473 (6.282) N = 446	5.442 (7.452) N = 117	1.408	0.16

^a The measures of advertising fee and royalties were first tested by a MANOVA to ensure independence of these variables.

^b Counts differ across different measures because of missing values.

(2000), KTRUST is measured using a four-item seven-point Likert-scale. The franchisors were asked to rate the level of trust based on their interaction experience with the business partners (franchisees) (see Table 3). Cronbach's alpha for this variable is 0.876.

3.2.2.3. *General trust (GTRUST)*. Based on Yamagishi and Yamagishi (1994) and Lazzarini, Miller, and Zenger (2008), we measure this variable with a three-item seven-point Likert-scale. The franchisors were asked questions about their general attitude and opinion towards trusting others. The items refer to 'most people trust others, most people are trustworthy, and most people behave cooperatively if they are trusted'. Cronbach's alpha for GTRUST is 0.806.

3.2.3. Control variables

We control for agency-theoretical variables (SHIR-MC, BRAND) and the influence of age (AGE), sector (SEC) and size (SIZE) on the franchisor's choice of MUF.

3.2.3.1. *Shirking and free-riding hazards*. According to the agency theory, agency costs arise from behavioral uncertainty due to shirking and free-riding (Blair & Lafontaine, 2005; Combs, Michael, & Castrogiovanni, 2004; Kidwell, Nygaard, & Silkoset, 2007; Lal, 1990). Compared to SUF, the franchisor can alleviate shirking and free-riding problems by choosing MUF (e.g., Garg et al., 2005; Gomez et al., 2010). For instance, compared to SUF, area managers employed by the franchisor are replaced by multi-unit franchisees as residual claimants (Jindal, 2011) who have strong incentives both to pursue growth and monitor closely their unit-level managers. In addition, MUF reduces franchisees' incentives for free-riding compared to SUF (e.g., Bercovitz, 2004).

3.2.3.1.1. *Shirking-related monitoring costs (SHIR-MC)*. Shirking leads to high monitoring costs. Derived from Anderson (1985) and Bercovitz (2004) we operationalize shirking hazards with shirking-related monitoring costs. Adapted from Anderson (1985) and John and Weitz (1988, 1989), franchisors were asked on a two-item seven-point scale to indicate how difficult it is to assess performance and capabilities of the local outlet managers (see Table 3). Cronbach's alpha for SHIR-MC is 0.769.

3.2.3.1.2. *Brand name (BRAND)*. Free-riding hazards will depend on the strength of the brand name. If a franchisor's brand name is of high value, the franchisor will face a higher risk of free-riding (Michael, 2000; Norton, 1988). Since this research has not observed free-riding directly, consistent with previous studies (e.g. Bercovitz, 2004; Michael, 2000; Solis-Rodriguez & Gonzalez-Diaz, 2012) we use the brand name value as proxy for the franchisor's free-riding hazards. Adapted from Barthélemy (2008), franchisors were asked to indicate (on a three-item seven point scale) how important their brand name is in terms of recognition and strength compared to their competitors, and competitive advantage (see Table 2). Cronbach's alpha for BRAND is 0.756.

3.2.3.2. *Age (AGE)*. Based on the lifecycle view of the franchise relationship (e.g., Blut et al., 2011), we expect that older franchise systems with an established brand name are more likely to attract MU franchisees than franchise systems in the early stages of the life cycle. Hence, experience helps to alleviate the franchisor's resource scarcity problem by increasing the likelihood of attracting MU franchisees. The existing research shows that the age of a system may positively impact the use of MUF (e.g., Weaven, 2009). AGE is measured by the number of years since the franchise system was established.

3.2.3.3. *System size (SIZE)*. The size of the system is measured by the total number of franchised and company-owned outlets. Larger franchise systems signal a strong brand name and success of the system and are more attractive for prospective MU franchisees. The existing research suggests a positive effect of system size on the use of MUF (Gomez et al., 2010; Weaven & Frazer, 2007).

3.2.3.4. *Sector (SECT)*. We differentiate between product and services franchising. Previous studies (e.g., Wadsworth & Morgan, 2003) suggest that MUF varies with the industry and the business sector. Since services franchising firms are characterized by more intangible assets compared to product franchising firms, they require a higher knowledge transfer and monitoring capacity. Hence, services firms may have a higher tendency towards MUF.

3.2.4. Construct validity and reliability

During the process of instrument development, the content validity was ensured by extensive literature review. Franchising professionals provided a very valuable feedback to improve the questionnaire. Franchisors and officials from the franchise associations were actively involved in the pre-test phase. Some items were dropped from the initial version of the questionnaire due to possible ambiguity as suggested by the pre-test. As shown in Table 3, we use multi-item scales for measuring GTRUST, KTRUST, SHIR_MC, and BRAND. We also conducted confirmatory factor analysis (CFA) using IBM SPSS Amos 21 to check the validity and goodness of fit of the factors measuring the underlying latent constructs. In consistency with the theoretical constructs, the factor analysis produced a clear four-factor solution with reasonable CFA fitness ($\chi^2 = 78.889$, $df = 49$, $p = 0.004$, $RMSEA = 0.067$, $CFI = 0.956$, $NFI = 0.895$, $IFI = 0.957$).

Convergent validity was tested by calculating Cronbach's alpha. The alpha values for all latent variables (GTRUST, KTRUST, BRAND, SHIR_MC) are well above the standard cutoff point of 0.70 (Nunnally & Bernstein, 1994). We also evaluated discriminant validity between constructs by calculating average variance extracted (AVE) for GTRUST, KTRUST, SHIR_MC, and BRAND (see Table 4). As suggested by Fornell and Larcker (1981), all four AVE estimates are above the benchmark value of 0.50 (ranging between 0.592 and 0.726). We estimated discriminant validity by comparing the square roots of AVE for each construct to its correlations with all other constructs.

4. Results

In order to investigate the proposed relationships between the two different concepts of trust and multi-unit franchising (see Fig. 1), we employed multiple regression analysis (MRA). The dependent variable is the tendency towards multi-unit franchising (MUF). Franchisor's knowledge-based trust (KTRUST), franchisor's general trust (GTRUST) and the interaction (KTRUST * GTRUST) are used as predictor variables. Risk of free-riding (BRAND), risk of shirking (SHIR_MC), system size measured by the total number of outlets (SIZE), sector (SECT) and age of the system (AGE) are included in the model as control variables. Hence, we estimate the following regression equation:

$$MUF = \alpha_0 + \alpha_1 KTRUST + \alpha_2 GTRUST + \alpha_3 SHIR_{MC} + \alpha_4 BRAND + \alpha_5 AGE + \alpha_6 SIZE + \alpha_7 SECT + \alpha_8 GTRUST * KTRUST + \epsilon.$$

The descriptive statistics (mean, SD, and correlations) of the variables in the regression equation are reported in Table 5.

Woodside (2013) and others raise several concerns about MRA that have to be taken into consideration. First, using goodness-of-fit as the sole indicator for the quality of the model may lead to erroneous conclusions as it does not consider the predictive validity of the model – the latter, however, is a crucial part of evaluating model performance (McClelland, 1998; Woodside, 2013). Furthermore, especially in small sample sizes the coefficients may be overestimated for predictive purposes (Steyerberg, Eijkemans, Harrell, & Habbema, 2000). To address these problems, we cross-validated our model using the holdout method and additionally performed a bootstrapping analysis. The holdout method involves splitting the sample randomly into a training and a testing set in order to assess the model's ability to fit out-of-sample data. The training set is used to estimate the parameters of the model and the resulting parameters are subsequently used to predict the

Table 3
Factor analysis.

Items	Factors*			
	KTRUST	GTRUST	BRAND	SHIR_MC
The cooperation is based on partnership basis.	0.807			
The exchange of information between us and the partners goes beyond the agreed scope.	0.700			
There is great trust between us and the partners.	0.925			
There is an atmosphere of openness and honesty between us and the partners.	0.953			
The majority of people trust others.		0.746		
Most people are trustworthy.		0.934		
Most people behave cooperatively if they are trusted.		0.688		
Our brand name is very strong as compared to our competitors.			0.795	
Our franchise system enjoys higher brand recognition as compared to our competitors.			0.885	
Our brand name is very important for achieving competitive advantage.			0.633	
It is very difficult to measure the performance of the outlet manager (franchisee or manager).				0.811
It is very difficult to assess the competencies and capabilities of the outlet manager (franchisee or manager).				0.725

* Coefficient values below 0.3 not listed.

dependent variable in the testing set. In a second step, this procedure is repeated with the two partitions switching their role. As the accuracy estimates may vary heavily depending on which cases end up in the training and testing set respectively (Efron, 1983; Harrell, Lee, & Mark, 1996), we performed the procedure 1000 times and report the mean of the pseudo-R² and the mean of the root mean square error (RMSE) (see Table 6). Furthermore, we subjected our model to bootstrapping. Bootstrapping is an alternative method for cross-validation that has several advantages over the holdout method, including better estimates and no loss of sample size (Efron, 1979, 1983; Harrell et al., 1996). Bootstrapping consists of taking a large number of samples with replacement from the original sample, performing an MRA in each of the samples, and calculating corrected parameters. We subjected our model to 1000 repetitions and the results are presented in model 1 (Table 6).

A second issue with MRA is that the specific results for the variables of interest, in our case trust, may depend strongly on what other variables are included in the model (Woodside, 2013). It is suggested to include only a limited amount of variables into the MRA (Armstrong, in press, as quoted in Woodside, 2013) or additionally report findings from more simple methods (Woodside, 2013). To take into consideration this concern we subjected our model to a best predictor procedure by calculating bootstrapped stepwise regressions as proposed by Steyerberg et al. (2000) and Harrell et al. (1996). We employed forward selection with a p-value for entry set at p < 0.05 and performed 1000 repetitions. The results can be found in model 2 (Table 6).

Both procedures provide strong support for our hypotheses. In the bootstrapped MRA (model 1) we find a significant effect for both knowledge-based trust (p < 0.1) and general trust (p < 0.05). As predicted knowledge based trust (KTRUST) positively influences the franchisor's tendency towards multi-unit franchising whereas general trust (GTRUST) has a negative effect. Additionally, consistent with the prediction of agency theory, shirking and free-riding have a significant and positive impact on the franchisor's use of MUF. As to be expected, the pseudo-R² and the RMSE derived from the holdout method are smaller and higher than the respective values of the original model, respectively. In the best predictor model (model 2), however, the four theoretically derived variables again emerge as best predictors for MUF within the proposed model further supporting our hypotheses.

Table 4
Correlations and discriminant validity.

Variable	Cronbach's α	AVE	Correlations			
			1	2	3	4
1. KTRUST	0.876	0.726	1			
2. GTRUST	0.792	0.634	0.139	1		
3. SHIR_MC	0.778	0.605	-0.029	-0.216	1	
4. BRAND	0.771	0.592	0.261	0.022	0.092	1

Model 1's coefficients are also very similar to the values obtained with the best predictor model indicating that the results are not affected by the other variables in the model.

Furthermore, when using MRA it should be considered that the independent variables may be dependent from each other in predicting an outcome (Woodside, 2013). Thus, we investigated whether the effect of knowledge-based trust on MUF may depend on the level of general trust and vice versa. For this purpose, we calculated a model including an interaction effect between knowledge based trust and general trust (model 3 in Table 7) and constructed two marginal effect plots as suggested by Brambor, Clark, and Golder (2006) and Berry, Golder, and Milton (2012). Marginal effect plots show how the marginal effect of a variable of interest varies with the value of another variable. For instance, it might reveal that knowledge-based trust has a positive impact on MUF only when the levels of general trust are low and general trust only has a negative impact on MUF when the levels of knowledge-based trust are low. However, the interaction term turned out to be non-significant (p > 0.1) and the marginal effect plots revealed no additional information. Hence, hypothesis 3 is not confirmed and it can be concluded that knowledge based trust and general trust do not depend on each other in influencing the tendency to MUF.

Finally, we tested interactions between GTRUST as relational governance variable and the agency-theoretical variables (SHIR-MC, BRAND). We expect that general trust negatively moderates the impact of shirking and free-riding on the franchisor's use of MUF. This may be due to the fact that high-trust franchisors perceive less necessity to increase control by using MUF under high shirking and free-riding risks. The results show that general trust significantly weakens the positive impact of shirking on the use of MUF (see model 4 in Table 7). However, the interaction effect between GTRUST and BRAND is not significant. This might be due to the use of BRAND as proxy for free-riding risk.

Overall, our results strongly support the proposed hypotheses that trust is a valuable predictor as to whether franchisors employ multi-unit franchising and that the two different kinds of trust have an opposing effect. Furthermore, the positive effects of shirking and free-riding as proposed by agency theory have also been confirmed. By combining the agency-theoretical with the relational governance view of MUF the explanatory power of the research model significantly increased (see Tables 6 and 7). However, knowledge based trust and general trust do not interact in predicting the tendency towards MUF. The results are discussed in the next section.

5. Discussion and implications

5.1. Discussion

In this study, we apply a relational governance perspective to explain the influence of trust on the franchisor's choice of MUF. We

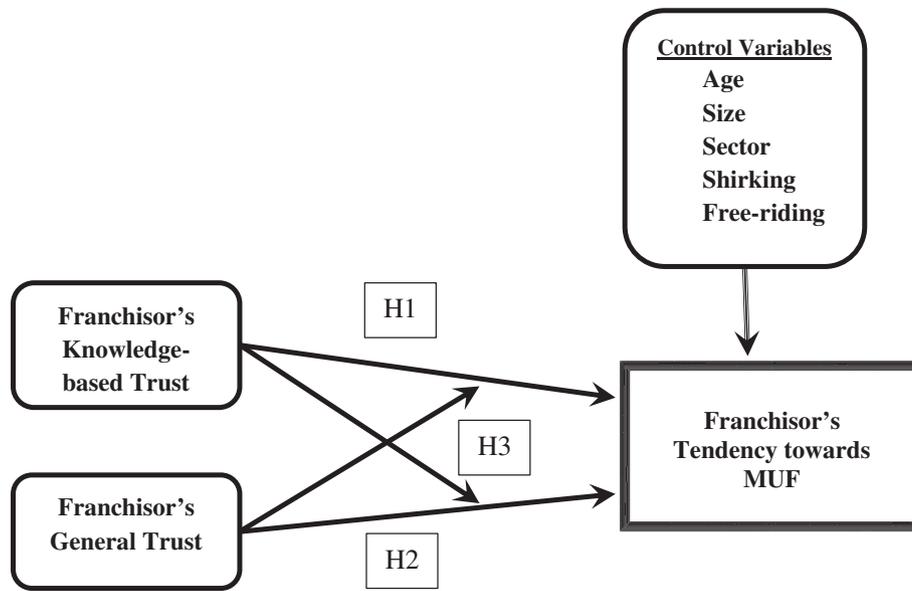


Fig. 1. Conceptual model.

differentiate between knowledge-based trust and general trust. The results of regression analysis support the proposed positive relationship between knowledge-based trust and the negative relationship between general trust and the franchisor's tendency towards MUF. A positive relationship between knowledge-based trust and MUF explains the franchisor's use of MUF as a screening device to reward better performing franchisees. The franchisor has a higher propensity to use MU-franchisees when the relationship with his/her franchise partners is characterized by credibility and fairness, leading to a high level of trust in the network partners. Therefore, MUF functions as screening mechanism to reward the franchisees whose reputation signals high entrepreneurial capabilities and motivation (Gillis et al., 2011). On the other hand, franchisor's general trust negatively impacts the tendency towards MUF. Franchisors use MUF as a control mechanism to increase the monitoring efficiency of the system by reducing the number of contract relationships compared to SUF. However, under a high level of general trust, the franchisor perceives lower relational risk and expects lower agency and monitoring costs in the case of SUF. This decreases the franchisor's necessity to increase formal control by using MUF.

Moreover, our results confirm the agency-theoretical hypotheses. Consistent with previous findings (e.g. Garg et al., 2005; Gomez et al., 2010), shirking and free-riding positively influence the franchisor's use of MUF. In addition, the positive impact of shirking on MUF is moderated by the level of general trust. Overall, this study presents a relational governance explanation of the franchisor's use of MUF by showing that knowledge-based trust has a positive impact and general trust has a negative impact on the franchisor's choice of multi-unit ownership strategy.

5.2. Implications

This study contributes to the existing literature on MUF in at least two ways. First, as argued by Combs et al. (2004), Castrogiovanni, Combs, and Justis (2006) and Windsperger (2013), research in franchising has to combine different theoretical perspectives to explain the governance structure of franchise chains. We extend the existing literature by presenting a relational governance view of MUF that complements the agency-theoretical explanation. We show that, in addition to the agency-theoretical variables, knowledge-based trust and general trust are important determinants of the franchisor's multi-unit ownership strategy. Second, we contribute to the relational governance literature on inter-firm alliances by showing that trust must be differentiated into two major dimensions, i.e. general and knowledge-based trust. Both have different impacts on the choice of formal governance mechanism: General trust negatively impacts MUF and knowledge-based trust positively impacts MUF.

The results of this study have some implications for franchising practitioners. First, based on the agency-theoretical perspective, franchisors should allocate more multi-unit franchise rights to franchisees when the risk of shirking and free-riding are relatively high. MUF enables the franchisor to reduce shirking-related monitoring costs, due to the reduction of the number of contracts compared to SUF, and simultaneously mitigates free-riding hazards, especially under a strong brand name. Second, based on the relational governance perspective, franchisors exhibiting high general trust are more willing to set up network relationships with weaker ties facilitating access to new knowledge (Granovetter, 1985; Uzzi, 1997). Hence they should be inclined to

Table 5 Descriptive statistics.

Variable	Mean	SD	N	Correlations							
				1	2	3	4	5	6	7	
1. MUF	1.504	1.010	118	1							
2. KTRUST	5.796	1.039	136	0.222*	1						
3. GTRUST	4.504	1.307	131	-0.289**	0.139	1					
4. SHIR_MC	3.339	1.417	127	0.276**	-0.029	-0.216*	1				
5. BRAND	5.591	1.140	137	0.191*	0.261**	0.022	0.092	1			
6. SIZE	155.95	328.37	118	0.097	0.053	0.049	0.069	-0.140	1		
7. AGE	11.19	8.391	121	0.286**	0.051	-0.116	0.127	0.162	0.453**	1	

* Correlation is significant at the 0.05 level (two-tailed).
 ** Correlation is significant at the 0.01 Level (two-tailed).

Table 6
Effect of trust on the tendency towards MUF.

	Model 0	Model 1	Model 2
Constant	−0.518 (0.438)	−0.487 (0.713)	−0.420 (0.589)
AGE	0.015 (0.010)	0.013 (0.010)	–
SIZE	0.000 (0.000)	0.000 (0.001)	–
SECT	−0.076 (0.154)	−0.042 (0.161)	–
SHIR_MC	0.242*** (0.051)	0.213*** (0.071)	0.224*** (0.055)
BRAND	0.176** (0.068)	0.154** (0.074)	0.163*** (0.046)
KTRUST		0.146* (0.083)	0.149*** (0.062)
GTRUST		−0.145** (0.064)	−0.153** (0.050)
N	110	110	110
R2	0.278	0.345	0.320
Adjusted R2	0.243	0.300	0.295
RMSE		0.731	0.734
Prob > F		0.009	0.000
Cross validation pseudo R2		0.214	0.264
Cross validation RMSE		0.857	0.785

*** p < 0.01; ** p < 0.05; * p < 0.1; values in parentheses represent standard error; models 1 and 2 are bootstrapped with 1000 repetitions; the cross validation indices represent the mean of 1000 repetitions.

decrease the use of MUF as control device. On the other hand, franchisors with high knowledge-based trust are more willing to establish committed relationships with stronger ties. Hence they should be inclined to increase MUF as screening device.

5.3. Limitations

The findings of this study are subject to some important limitations. First, our research does not observe free-riding directly; in line with previous studies we used the value of the brand name as proxy. Future research has to develop a more valid measure for free-riding (e.g., Kidwell et al., 2007). Second, we do not distinguish between different types of MUF, i.e. area development MUF and sequential MUF. It would be quite interesting to differentiate between these two types of MUF and investigate the effect of trust on their use. We expect that knowledge-

Table 7
Regression model with interaction effects.

	Model 3	Model 4
Constant	−3.049* (1.713)	−1.84** (0.706)
AGE	0.011 (0.010)	0.009 (0.009)
SIZE	0.000 (0.000)	0.000 (0.000)
SECT	−0.068 (0.148)	−0.07 (0.142)
SHIR_MC	0.206*** (0.051)	0.620*** (0.133)
BRAND	0.140** (0.069)	0.145** (0.66)
KTRUST	0.589** (0.288)	0.105 (0.73)
GTRUST	0.503 (0.410)	0.249* (0.131)
GTRUST * KTRUST	−0.106 (0.067)	
GTRUST * SHIR_MC		−0.102*** (0.031)
N	110	110
R2	0.361	0.408
Adjusted R2	0.311	0.361

*** p < 0.01; ** p < 0.05; * p < 0.1; values in parentheses represent standard error.

based trust may have a stronger impact on the franchisor's choice of sequential MUF, and general trust may be more important for the franchisor's choice of area development MUF. Third, while our relational governance and agency cost perspectives explain 36% of the variance of our multi-unit-ownership measure, other variables, not included in this study, may influence the franchisor's tendency towards MUF. In addition to the relational governance and agency cost variables, determinants based on resource-based and bargaining power theory may influence the choice between SUF and MUF. According to the resource-based theory, network governance through MUF aims at increasing competitive advantage by creating firm-specific resources and organizational capabilities (Combs et al., 2004; Gillis, Combs, & Ketchen, in press; Thompson, 1994). Recently, Hussain and Windsperger (2010) argue that MUF may increase the innovation, monitoring and knowledge transfer capabilities of the franchise system and hence the franchisor's propensity to use MUF. For instance, we expect that higher monitoring capabilities enable the franchisor to transfer more control over operational decisions to the franchisees by setting up multi-unit agreements. In addition, based on the bargaining power view (Porter, 1980), a higher percentage of multi-unit franchisees reduces the bargaining power of the franchisor relative to the franchisees (Michael, 2000). The franchisor may compensate for this loss of control by using more company-owned units. Consequently, future research has to analyze the influence of organizational capabilities and bargaining power on the franchisor's choice of ownership strategy.

6. Conclusion

Our study offers a relational governance perspective of the franchisor's choice of multi-unit franchising. We complement the agency-theoretical perspective by developing hypotheses regarding the impact of knowledge-based and general trust on the franchisor's choice between single-unit and multi-unit franchising. We found that the franchisor's use of multi-unit ownership strategy increases with knowledge-based trust and decreases with general trust. In addition, based on the agency-theoretical view, we found that the franchisors use multi-unit franchising to mitigate the risk of shirking and free-riding. In conclusion, our empirical results regarding the impact of trust as relational governance variable (in addition to the agency-theoretical variables) on the choice of MUF show that franchisor-managers have to consider both determinants for taking the right ownership decision.

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