

Drivers of Performance of Franchisees: A Multi-level Analysis

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Abstract

The aim of this study is to examine the drivers of performance of franchisee organizations. Adopting agency theory, we hypothesize that age, size and obligatory assortment decided by central franchisors, distribution of power from franchisors to franchisees and frequency of franchisor's visits to franchisee are positively associated with the performance of franchisees. The survey data of 186 franchisees in four European countries are used to test the proposed hypotheses. Principal component analysis and a hierarchical linear model are applied in this study. Empirical results reveal that whether the proposed hypotheses are statistically supported depend correspondingly on how franchisees' performance is measured. The paper provides some implications for franchisee literature.

Keywords: Age; franchisee performance; obligatory assortment; power; size.

1. Introduction

In recent decades, franchising is considered as one of the fastest growing forms of business in the global economy (Croonen and Brand, 2015; Justis and Judd, 1986) and represents nearly one third of domestic retail sales in many countries (Boe et al., 1989). Kedia et al. (1994) show that franchising is an especially effective case of licensing in which the franchisor provides the use of a trademark or service mark, assistance in opening the business and training for the franchisee. There are several reasons for the preference to employ franchising rather than other strategies since it provides benefits for both franchisors and franchisees. On the one hand, franchising supplies a means of expansion with minimized risk and minimized franchisor costs in order to minimize governance costs while maximizing the ultimate returns to the franchisors. On the other hand, franchising offers franchisees the advantage of starting up a new business quickly based on a proven trademark and formula of doing business and provides franchisees with significant training, which is not available for free to individuals starting their own business (Brickley and Dark, 1987; Brickley et al., 1991; Carney and Gedajlovic, 1991; Caves and Murphy, 1976; Martin, 1988; Mignonac et al., 2015).

In order to survive and develop in the competitive business environment of the global economy, performance evaluation plays an important role to encourage franchise organizations in general and franchisees in particular to improve their performance. Through performance evaluation, one can reveal the strengths and weaknesses of franchise organization operations and factors influencing their perfor-

mance (Fenwick and Strombom, 1998). Previous studies show that the number of year's franchisees are in a franchise chain, the distribution of power from franchisor to franchisees has positively affected the franchisee's performance (Porter, 1980; Aldrich and Auster, 1986; Frazer et al., 2007). However, others found negative effect of these factors on the performance of the franchise organizations (Castrogiovanni et al., 1993; Castrogiovanni and Justis, 2002; Gassenheimer et al., 1996). To explain these contradictory findings we argue that the prior studies do not take multi-level analysis into account since this approach allows explanation of exactly how the characteristics of each analysis level (franchisee and franchisor) affect franchisee performance. Therefore, the aim of this paper is to enhance insights on the factors affecting the performance of retail franchise organizations.

To do so, the study applies agency theory, which highlights the importance of the information transfer process, the information asymmetry problem (Arrow, 1962) and associated monitoring costs. This information asymmetry problem arises in the principal-agent relationship because agents, who being in the day-to-day control of a company, have detailed knowledge of its operations. The principals have neither access to this knowledge, nor in many cases, the ability to interpret information, even if access was perfect. The franchisor-franchisee relationship parallels the principal-agent relationship, thus allowing agency theory to provide insights into retail franchise activity. By adopting agency theory, we develop theoretical arguments and thus propose hypotheses on determinants of franchisee's performance. This is

our first contribution to the franchise literature.

Our second contribution is to test proposed hypotheses by applying factorial analysis and a hierarchical linear model. The latter allows us to examine how the characteristics of both franchisee level and franchisor affect franchisee's performance because data is collected at both levels - franchisor and franchisees. This strengthens insights to explain the determinants of franchisee performance.

Our paper is constructed as follows. Section 2 discusses the literature review of some factors that influence the performance of franchise organizations and then we formulate our research hypotheses. Section 3 describes data, variables and research methodology and discusses the importance of choosing these methods. Following on, empirical results are discussed in detail in section 4. Section 5 encompasses discussion, conclusion, implications and further research.

2. Literature review and hypotheses

Agency theory states that managers of company-owned units do not bear the full costs nor receive the full benefits of their efforts because there is a weak link between their compensation (salary) and the performance of their outlets (salaries and profits). They may therefore shirk the responsibility of the job. Agency theory relates to the perception that franchising is an effective solution to the problems of employee motivation and low levels of productivity, without incurring the costs associated with monitoring and supervising employees. This is because franchisees bear more of the costs of their shirking because they are compensated from the residual claims of their individual units. As a result, franchisee-owners tend to minimize shirking. This explanation receives

strong empirical support (Lafontaine, 1992). The simplest way to motivate the franchisee is to provide him/her with a share of the profits of the franchise (Rubin, 1978). Then he/she will work hard to be efficient, as any leisure he takes will cost him/her as an individual. Thus, Rubin suggested that the franchise contract should be written in such a way as to provide the franchisee most of the profits of the operation. Those adopting the agency perspective argue that franchising is cost effective when the marginal costs of monitoring company-owned units are higher than those associated with franchise contracts. These costs are lower because the franchisee has a similar perspective to the franchisor: revenue growth. From the point of view of agency theory, a rich body of franchise literature categorizes the determinants of franchise organization performance. Scholars indicate that age and size of franchisee operations are two categories of drivers affecting franchisee's performance because these factors cannot be easily controlled by the franchisor in the short term (Castrogiovanni and Justis, 2002; Nijmeije et al., 2014). In addition, other studies also found that strategic decisions regarding the governance of the franchisor also determine franchisee performance (e.g., Dant et al., 2013; Pandey and Wooldridge, 2003). Adopting agency theory and taking the prior findings into account, this paper examines how franchisee characteristics and strategic factors drive the performance of a franchisee operation.

The number of years of franchisees participating in a franchise chain

Gassenheimer et al. (1996) investigating 3,400 fast food franchisees belonging to 19

franchise organizations found that there was a negative relationship between franchisee performance and number of years a franchisee was in the franchise system. Their finding implies that the franchisees' performance decreases as they accumulate greater experience. In addition, a number of studies show that the experience of a franchisee affects its failure rate (Dant et al., 2013; Nijmeije et al., 2014). For instance, Castrogiovanni et al. (1993) found that the failure rate declines as franchisees get older because as time goes by they learn more about how to survive and prosper. Based on previous literature, our viewpoint is that the longer franchisees have operated in a franchise system, the more experience they gain. As a result, costs are likely to decline and the franchisee performance to improve. Therefore, we propose the following hypothesis:

- Hypothesis 1 (H1): the number of years of a franchisee in a franchise system is positively associated with its performance.

The number of part time and full time employees in a franchisee's operation

Several studies indicated that there is a relationship between the number of employees estimated for franchisee's size, and franchisee's performance. Using data from the U.S. Census Bureau, Bates and Nucci (1989) found that franchisees with 10-50 employees had failure rates averaging around 4 percent. They concluded that the greater the number of employees in a franchisee's operation, the higher the performance they obtain. Several authors argue that after controlling for business type and size of franchisee operation - measured by the number of employees - is negatively related to franchisee failure rate (Castrogiovanni et al., 1993;

Croonen and Brand, 2015). However, there is no evidence to find this conclusion. Hence, we posit the following hypothesis:

- Hypothesis 2(H2): the number of fulltime and part time employees is positively associated with the performance of franchise organizations.

Obligatory assortment decided by central franchisors

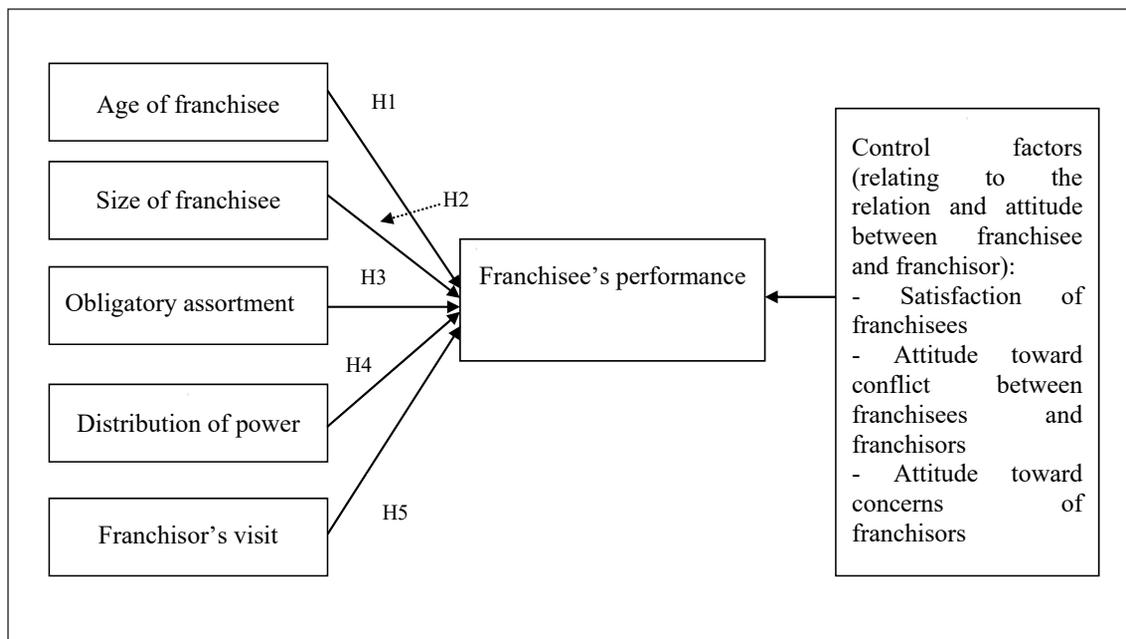
Kaufmann and Eroglu (1999) distinguish core elements and peripheral elements of a business format. According to these authors, the core elements of the business format should be standardized across franchisees without exception. The peripheral elements are amenable to adaptations if they affect a higher customer value by matching consumer needs more closely (Mignonac et al., 2015). Thus, they argue that as a central franchisor has required a franchisee's business format to be more similar to its business style, the franchisee's performance is higher. Therefore, we come up with the following hypothesis:

- Hypothesis 3 (H3): The higher the percentage of obligatory assortment by the franchise chain, the higher the performance of franchise organizations.

Distribution of power from franchisors to franchisees

Power is the main avenue available to channel member participants to facilitate cooperation and to achieve desired goals (Coughlan et al., 2001). In the franchising relationship, the franchisor possesses and controls resources that are useful to franchisees (Coughlan et al., 2001; Dant et al., 2013; Frazer et al., 2007). In addition, French and Raven (1959) indicated that

Figure 1: Theoretical framework



several bases of power have been identified in marketing channels: reward, coercive, expert, referent and legitimate power and each of these is relevant to franchising arrangements. For instance, franchisors have the ability to motivate superior franchisee performance through the offer of *legitimate power* (Frazer et al., 2007). Moreover, in a franchising arrangement, the franchisee is heavily dependent on the franchisor, particularly in the early stages where the learning curve is steep. Several researchers have investigated the effect of the distribution of power from franchisor to franchisee. In a study of fast-food franchising, Hunt and Nevin (1974) found that greater franchisee satisfaction occurred when non-coercive sources of power were used. Similar findings were reported in a study of vehicle manufacturers and dealers (Lusch, 1977). Furthermore, excessive

use of power by the franchisor (Dant and Nasr, 1998; Dant and Gundlach, 1999; Dant et al., 2013) can sometimes produce counter-productive results such as encroachment and the misuse of the franchise brand. Hence, we suggest the following hypothesis:

- Hypothesis 4 (H4): the greater the power distribution of franchisor to franchisee, the higher the franchisees' performance.

Frequency of franchisor's visits to franchisee

Franchisees are best described as being in "controlled self-employment" due to the operational restrictions imposed by the franchisor. This issue can reduce the failure rate of franchisees (Feistead, 1991). Frequency of the franchisor's visits to franchisees implies that the franchisor in a franchise system would like to

support its franchisees and that it would provide initial and ongoing support for the franchisee (Minguela-Rata et al., 2012). Support from the franchisor has a significant role in a franchisee's success and performance (Michael and Combs, 2008). According to Hollensen (2007), the franchisor offers support that contains trademarks/trade names, copyright, designs, patents, trade secrets, business know-how, geographic exclusivity, design of the store, market research in the area, and location selection. In addition, as reported by Grunhagen et al. (2008), the franchisor's responsibility in this relationship includes a variety of functions such as franchisee training, field visits, internet services, staff training, newsletters, software ordering, telephone assistance, national conferences, market analysis, franchise councils, points of service, insurance offers, and centralized booking. As a result, franchisees enjoy valuable experience from the central franchisor which enhances the franchisee's performance (Pandey and Woolridge, 2003). Thus, we predict as following:

- Hypothesis 5 (H5): as the frequency of franchisor's visit to franchisee increases, the performance of franchise organization will be enhanced

3. Research methodology

3.1. Data, sample

To test the proposed hypotheses, the data collected from 23 franchise organizations in European countries including Austria, Belgium, the Netherlands and Germany are used. Within each franchise chain, 13 franchisee operations have been investigated. With the agreement of franchisors, a questionnaire was mailed to all 450 franchisees located in these countries. Out of these, there were 241 responses representing

a 53.55% response rate. Because of the number of responses that were valid, usable data were available for just 186 franchisees, which is equivalent to 41.33% of the original sample. Thus, the total observation in this study is 186 franchisees. We have six background variables relating to franchisee performance, 13 attitude statements specifying franchisee's satisfaction towards franchise organization and four variables measuring performance.

This data is used for factor analysis in the first step. We employ factor analysis to assess the structure underlying these attitude statements. After that, we apply a hierarchical linear model. This paper specifies the two levels in the hierarchical structure for analyzing this data. At level 1 we have the franchisees. Then, in a two-level hierarchical structure, the franchisees are nested within franchise organizations.

3.2. Variability and measure

To present a coherent research methodology, in this part we describe the concepts and display the measurement of variables that satisfy the objectives of this study. Regarding thirteen attitude statements, franchisees were asked to express their attitude related to franchise organizations on a scale of 1 to 5 (1 = "totally disagree", 2 = "disagree", 3 = "neither disagree nor agree", 4 = "agree" and 5 = "totally agree"). In addition, six background variables contain the number of years' of franchisee participating in the franchising system (*HISTORY*), number of full time employees (*NUMBFULL*), number of part time employees (*NUMBPART*), obligatory assortment (*OBLASSOR*), frequency of franchisor's visit to franchisee (*VISITS*) and distribution of power (*POWER*).

- Number of years' franchisee in the fran-

chising system (age of franchisee operation) is the number of years the franchisee has operated in the franchising system till the present time. It is measured as the number of years a franchisee has been in the franchising system.

- *Number of full time employees* (size of franchisee operation) is defined as the number employees working full time in a franchisee's operation.

- *Number of part time employees* (size of franchisee operation) is defined as the number employees working part time in a franchisee's operation.

- *Obligatory assortment* is what assortment is decided by the central franchisor. It is measured by the percentage of assortment that is decided by the franchisor.

- *Frequency of franchisor's visit to franchisee* is the number of times a franchisor visits a franchisee. This variable is measured on a four point scale (1 = weekly, 2 = monthly, 3 = per quarterly, 4 = higher than quarterly).

- *Distribution of power* is defined as delivery of the decision-making authority from franchisor to franchisee (Pandey and Wooldridge, 2003). This variable is measured as an interval scale; it is evaluated on a three-point scale: 1 = the franchisor is most powerful, 2 = power is about equal, 3 = the franchisee is most powerful. Our main dependent performance variables include an overall grade for franchise chain (*OVERALL*), results compared to expectations (*EXPECT*), development of margins (*DEVMARG*) and development of sales (*DEVSALES*).

- *Overall grade* for a franchise chain reflects the grade that franchisees obtain from their

business operations. This variable is measured as a point scale, evaluated from 1 to 10. The value is 1 if a franchisees' performance is extremely bad and 10 if their performance is excellent.

- *Results compared to expectations* are the expectation of the central franchisor of the franchisee's performance. It is measured as a point scale from 1 to 3. The value is 1 if the franchisee's performance is above the franchisor's expectation, 2 is about equal, 3 if the franchisee's performance is below the franchisor's expectation.

- *Development of margins* is defined as whether a franchisee's margin is improved or not. It is also measured with a three point scale. The value is 1 if the franchisee's margin is improved; the value is 2 if it is about equal and 3 if the franchisee's margin is not improved.

- *Development of sales* is defined as whether a franchisee's sales increase or not. It is also measured with a three point scale. The value is 1 if franchisee's sale is increased, value is 2 if it is about equal and 3 if the franchisee's sales are not increased.

3.3. Specification

In order to examine drivers of the performance of franchise organizations in retailing, we conduct the two following stages.

3.3.1. Factor analysis

In the first stage, we apply factor analysis. Since the data employed contains four performance measures, six background variables, and 13 attitude statements, we cannot put these variables in the multilevel model. Therefore, we apply factor analysis to achieve data reduction by creating an entirely new set of attitude

variables much smaller in number to replace the original set of attitude variables with a minimum loss of information (Hair et al., 2006; Lattin et al., 2003).

Principal component analysis was applied because this allows us to summarize most of the original information (variance) of attitude variables in a minimum number of factors for prediction purposes in the second step. In order to check robustness of Principal Component Analysis, we also apply Maximum Likelihood and Common Factor Analysis and compare these results with the Principal Component Analysis method. After implementing the first step with component analysis, we obtain factor scores. Hair et al. (2006) argue that factor scores are the best method for completing data reduction since they represent all variables loading on the factor. We use these factor scores as independent variables in the multilevel model in the second step.

3.3.2. Hierarchical linear model

After employing factor scores in the first stage, at the second stage we apply hierarchical linear models (HLM) to analyze factors affecting the performance of franchise organizations in retailing. In particular, Maximum Likelihood estimators estimate the factors determining the performance of franchise organizations. To consider factors affecting the performance of franchise organizations, in this step we deal with the following four models.

- Model 1: Dependent variable is overall grade for franchise chain

$$\text{Overallgrade}_{ij} = \beta_{0ij} \text{const} + \beta_{1j} \text{history}_{ij} + \beta_{2j} \text{numbfull}_{ij} + \beta_{3j} \text{numbpart}_{ij} + \beta_{4j} \text{oblassador}_{ij} + \beta_{5j} \text{visit}_{ij} + \beta_{6j} \text{power}_{ij} + \beta_{7j} \text{factor}_{ij}$$

$$\beta_{0ij} = \beta_0 + u_{0j}$$

Note: β_{nj} reflects the number of coefficients of variables depending on how many factors have been recognized in the first step.

- Model 2: Dependent variable is results compared to expectations

$$\text{Expect}_{ij} = \beta_{0ij} \text{const} + \beta_{1j} \text{history}_{ij} + \beta_{2j} \text{numbfull}_{ij} + \beta_{3j} \text{numbpart}_{ij} + \beta_{4j} \text{oblassador}_{ij} + \beta_{5j} \text{visit}_{ij} + \beta_{6j} \text{power}_{ij} + \beta_{7j} \text{factor}_{ij}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

- Model 3: Dependent variable is development of margins

$$\text{Devmargin}_{ij} = \beta_{0ij} \text{const} + \beta_{1j} \text{history}_{ij} + \beta_{2j} \text{numbfull}_{ij} + \beta_{3j} \text{numbpart}_{ij} + \beta_{4j} \text{oblassador}_{ij} + \beta_{5j} \text{visit}_{ij} + \beta_{6j} \text{power}_{ij} + \beta_{7j} \text{factor}_{ij}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

- Model 4: Dependent variable is development of sales

$$\text{Devsales}_{ij} = \beta_{0ij} \text{const} + \beta_{1j} \text{history}_{ij} + \beta_{2j} \text{numbfull}_{ij} + \beta_{3j} \text{numbpart}_{ij} + \beta_{4j} \text{oblassador}_{ij} + \beta_{5j} \text{visit}_{ij} + \beta_{6j} \text{power}_{ij} + \beta_{7j} \text{factor}_{ij}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

4. Empirical results

4.1. Principal component analysis result

In order to check whether Principle Component Analysis is suitable, we implement some tests. Checking data firstly, we have thirteen attitude statements and one hundred and eighty six observations. Following Hair et al. (2006), this data is sufficient to implement factor analysis. In addition, we found that most of the variables in franchisees' attitudes are substantially and highly significantly correlated. Particularly, 53 of 78 correlations (68.0 percent) are significant at a 1 percent level. Moreover, a Kaiser-Meyer-Olkin measure of sampling ad-

Table 1: Factor analysis of multi-item attitudes

Attitude variables	Factor 1	Factor 2	Factor 3
Satisfied with franchisor	0.790		
Franchisor-owned outlets well organized.	0.742		
Services delivered by franchisor very good	0.712		
Satisfied with entire franchise formula	0.690		
Franchisor communicates often enough	0.644		
Franchisor communicates very well	0.634		
Franchise contract unbalanced with respect to power		0.678	
Distribution decisions lead to conflicts		0.663	
Franchisor too much focused on problematic franchisees.		0.612	
Decisions on assortment lead to conflicts		0.609	
Visits by franchisor to franchisee ok			0.693
Franchise formula meets market requirements			0.671
Eigenvalue	4.011	1.397	1.093
Percentage of variance explained	26.689	15.407	12.085
Cumulative percentage of variance explained	26.689	42.096	54.181

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization

equacy equals 82.8 percent. Furthermore, the Bartlett test of sphericity is statistically significant at a 1.0 percent level. These results reveal that the degree of inter-correlations among the attitude variables is good enough to continue the principal component analysis (Hair et al., 2006).

The result in Table 1 of factor loading shows that attitude variables 2, 8, 4, 1, 7 and 5 are statistically significant for factor 1 since factor loadings are in the range from 0.78 to +0.63. Attitude variables 2, 12, 10, 9 and 13 are statistically significant for factor 2 with factor loadings in the range from + 0.68 to + 0.60. Attitude variable 3 and 6 are statistically significant for factor 3 with factor loadings ranging from +0.70 to + 0.63.

Overall, factor 1 contains most variables, which describe the satisfaction of franchisees with franchisors such as formula, services and communication. Therefore, we can label factor 1 as satisfaction with franchisors' characteristics. Factor 2 contains most factors that represent attitude towards the conflicts between franchisors and franchisees. Hence, this factor can be labeled as attitude towards conflicts between franchisors and franchisees. Factor 3 represents satisfaction of concerns of franchisors. It can be labeled as attitude toward concerns of franchisors. In addition, using the Varimax approach in orthogonal rotation method, we also apply Quartimax and Equimax approaches in orthogonal rotation method. The obtained results are relatively similar with the Varimax

approach. Moreover, we also apply oblimin in an oblique rotation method, based on structure matrix; we obtain three factors similar to the result discussed above in the Varimax approach in orthogonal rotation method but with slightly higher factor loading. Furthermore, we also apply the Maximum Likelihood method to extract factors. However, compared to Principal Component Analysis, the communalities of most variables are much smaller. Moreover, based on the eigenvalue, we also get three factors but the explained cumulative percentage of variance of three factors now is only 39 percent. Therefore, we conclude that the Maximum Likelihood method is not as good as Principal Component Analysis to extract factors in this study. Moreover, we also apply the Common Factor Analysis method to extract factors. However, compared to component analysis, the communalities of many variables are much smaller than 0.5. Although based on the eigenvalue, we also obtain three factors, the explained cumulative percentage of variance of the three factors now is only 38.8%. Therefore, we conclude that the Common Factor method is not as good as Principal Component Analysis to extract factors in this study.

4.2. Hierarchical linear model result

4.2.1. Statistic description and correlation

Table 2 shows mean, standard deviation and the statistical significant relationships between the dependent and independent variables. First, the overall grade for a franchise chain is significantly associated with number of full time employees, satisfaction of franchisors (*factor 1*), attitude towards conflict between franchisees and franchisors (*factor 2*), attitude toward concerns of franchisors (*factor 3*) – all at a 1

Table 2: Descriptive statistics and correlation

Variables	Mean	S.D	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Overall grade for franchise chain	7.30	1.13	1												
2. Results compared to expectations	1.82	0.77	-0.317**	1											
3. Development of margins	1.78	0.74	-0.215**	0.054	1										
4. Development of sales	1.68	0.81	-0.146*	0.132*	0.247**	1									
5. Number of years franchisee of this chain	6.12	5.77	-0.064	0.033	0.142 [†]	0.102	1								
6. Number of full time employees	2.17	4.13	0.160**	-0.142 [†]	-0.057	-0.013	0.107	1							
7. Number of part time employees	1.55	3.75	0.137 [†]	-0.188*	-0.105	-0.005	-0.008	0.820**	1						
8. Percentage obligatory assortment (by the franchise chain)	90.2	13.4	0.175*	-0.093	-0.017	0.126 [†]	-0.177*	-0.006	0.042	1					
9. Frequency of visits franchisor to franchisee	2.61	0.75	-0.113	-0.011	0.015	0.091	0.164*	0.078	0.070	-0.172*	1				
10. Distribution of power	1.65	0.69	0.226*	-0.148*	-0.133 [†]	-0.200**	0.054	0.078	0.078	-0.260**	0.037	1			
11. Satisfaction of franchisees (<i>factor 1</i>)	0.00	1.00	.624**	-0.310**	-0.147*	-0.165*	-0.107	0.079	0.057	0.125 [†]	-0.090	.132 [†]	1		
12. Attitude toward conflict between franchisees and franchisors (<i>factor 2</i>)	0.00	1.00	-0.206**	-0.039	0.218**	0.035	0.178*	-0.165*	-0.171*	-0.015	0.160*	-0.152*	0.000	1	
13. Attitude toward concerns of franchisors (<i>factor 3</i>)	0.00	1.00	0.254**	-0.025	0.020	0.005	-0.022	0.067	0.117	0.038	-0.011	.135	0.000	0.000	1

Notes: **, *, [†] indicate significance level at the 1%, 5% and 10%, (2-tailed), respectively.

percent level of significance; and at a 5 percent level for obligatory assortment and distribution of power and at a 10 percent level for number of part time employees. Second, there is also a significant relationship between the results compared to expectations and satisfaction of franchisor (*factor 1*) at a 1 percent level; 5 percent for the number of part time employees and distribution of power; and 10 percent for the number of full time employees. Third, development of margins also has a strong relationship with attitude toward concerns of franchisors (*factor 3*), satisfaction of franchisor (*factor 1*), number of full time employees, and distribution of power at 1, 5 and 10 percent levels of significance, respectively. Finally, development of sales is significantly associated with distribution of power, satisfaction of franchisor (*factor 1*) and number of years a franchisee is in a chain at 1, 5 and 10 percent levels, respectively. Moreover, Table 2 shows that the number of full time and part time employees is highly correlated together at a 5 percent level of significance (0.82). It implies that a multicollinearity problem may appear if we include simultaneously both the variables in the hierarchical model. Therefore, in this study, we decided to only include “number of full time employees” in our analysis since this variable exactly reflects the stability in employing employees at franchisee’s operations.

4.2.2. Discussion of hierarchical linear model results

The results of the Hierarchical Linear Model are shown in Table 3. We apply four multilevel models with dependent variables including an overall grade for the franchise chain, results compared to expectations, development of

margins and development of sales, respectively in order to determine factors affecting the performance of franchise organizations.

Table 3 presents the parameter estimates and standard errors for the four models. The variance of franchisee level residual errors in model 1, 2, 3 and 4, symbolized by σ_e^2 is estimated as 0.460, 0.510, 0.390, 0.439, respectively. The variance of franchisor level residual errors in model 1, 2, 3 and 4, symbolized by σ_{u0}^2 , is estimated as 0.001, 0.002, 1.745, 0.476, respectively. All parameter estimates are larger than the corresponding standard errors. This implies that they are significant at a 5 percent level.

Drivers of franchisee performance

Based on the literature, eight variables are candidate determinants of franchise performance. The first determinant is *the number of years*, which franchisees participate in this franchise system. This variable is not statistically significant in the first two models but significant at a 10% level in model 3 and 4. This result is contrary to our expectations (Hypothesis 1) since the longer the years franchisees participated the less improvement they obtain in their margins and sales.

Regarding the *number of full time employees* participating in franchise organization, this variable is only statistically significant at a 10 percent level in model 2 and has a negative relationship with “results compared to expectations”. This result is not contradicted in the previous literature. Because the higher the number of full time employees who work in a franchise organization, the higher the results of performance exceed expectations. This result also gives support for our Hypothesis 2 and previous literature.

Table 3: The results of the multi-level linear models

Variables	Model 1	Model 2	Model 3	Model 4
<i>Fixed component</i>				
Constant	6.035** (0.480)	2.701** (0.506)	1.787** (0.487)	0.732 (0.543)
Number of years franchisee of this chain	0.010 (0.009)	0.004 (0.010)	0.021 ⁺ (0.012)	0.017 ⁺ (0.010)
Number of full time employees	0.015 (0.013)	-0.023 ⁺ (0.013)	-0.003 (0.015)	0.007 (0.013)
Percentage obligatory assortment (by the franchise chain)	0.010* (0.004)	-0.006 (0.004)	0.002 (0.003)	0.007 ⁺ (0.004)
Frequency of visits franchisor to franchisee	-0.036 (0.069)	-0.029 (0.073)	-0.082 (0.080)	0.195* (0.086)
Distribution of power	0.195* (0.081)	-0.164 ⁺ (0.085)	-0.106 (0.078)	-0.148 (0.095)
Satisfaction of franchisees (<i>factor 1</i>)	0.666** (0.052)	-0.207** (0.054)	-0.117* (0.049)	-0.195** (0.059)
Attitude towards conflict between franchisees and franchisors (<i>factor 2</i>)	-0.205** (0.053)	-0.064 (0.056)	0.104* (0.048)	-0.050 (0.047)
Attitude towards concerns of franchisors (<i>factor 3</i>)	0.259** (0.051)	0.005 (0.053)	0.026 (0.047)	0.003 (0.058)
<i>Random component</i>				
σ_e^2	0.460 (0.001)	0.510 (0.053)	0.390 (0.047)	0.439 (0.057)
σ_{u0}^2	0.001 (0.000)	0.002 (0.000)	1.745 (1.319)	0.476 (0.249)
σ_{u1}^2	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.000 (0.000)
Deviance	441.7	402.8	364.6	402.3

Note: **, *, + indicates significance level at the 1%, 5% and 10%, respectively.

Percentage of obligatory assortment has mixed effects on franchise performance; this variable is positively significant only in model 1 and model 4 at a 5 percent and 10 percent level, respectively. As discussed in the literature above, the higher the percentage of the assortment that is decided by the central franchisor, the better the performance of the franchise organization. Our results support this argument (Hypothesis 3) in model 1, because the higher obligatory assortment can help franchisors maintain the requirement for franchisees to pursue the good will of the public towards the franchisor's brand by providing high quality goods and services (Fenwick and Strombom,

1998). However, the result in model 4 shows that a higher percentage of obligatory assortment decreases the improvement of sales in a franchisee's operations.

Frequency of visits of franchisors to franchisees has a modest effect in our models. This variable is only positively statistically significant in model 4 at a 5% level. This result is contrary to our expectation (Hypothesis 4) and previous research. The greater the frequency of franchisors visiting franchisees, the less the improvement in sales. One reason explaining this case is that the more frequent visits of franchisors leads to a higher probability of loss of control of franchisees. Under this circumstance,

franchisors involve themselves intensively in the franchise organizations. And it is not easy for franchisees to make their own business decision and this then leads to a decrease in sales.

Distribution of power between franchisors and franchisees has both negative and positive effects performance. However, this variable is only positively statistically significant in model 1 at a 5% level. The higher distribution of power towards franchisees leads to a higher grade of franchise performance. Our results support our expectation (Hypothesis 5) and previous research. The more the distribution of power of franchisors to franchisees, the greater the franchisee satisfaction (Hunt and Nevin, 1974), and this then leads to a higher overall grade of performance.

The satisfaction of franchisees with franchisor characteristics has a strong impact on franchise performance in general and franchisee operation in particular. This variable is obtained by Principal Component Analysis and achieved satisfactory scores. This variable is statistically significant at a 1 percent and 5 percent level in all four models. In model 1, this variable has a positive impact on the overall grade of franchise performance. In the rest of the three models, this variable has a negative impact on results toward expectations, development of margins and development of sales. However, these results do not contradict each other. In model 1, the higher satisfaction of franchisees with franchisors' characteristics leads to a greater overall grade of performance. In model 2, the increasing satisfaction of franchisees with franchisors' characteristics leads to performance exceeding expectation. In model 3, the greater satisfaction of franchisees

with franchisors' characteristics results in the improvement of margins. In addition, model 4 shows that, the higher satisfaction of franchisees with franchisors' characteristics improves the development of sales. Our results support the previous literature that when franchisees are satisfied with franchisors' characteristics such as formula, delivery, communication, and so on, it is easier for franchisees to contribute to the franchise performance (Dant and Gundlach, 1999; Frazer et al., 2007).

The franchisees' attitude towards conflict between the franchisors and franchisees variable is also obtained from Principal Component Analysis. This variable is negatively statistically significant at a 1% level in model 1 and is positively significant at a 5% level in model 3. Model 1 shows that conflict between franchisors and franchisees decreases the overall grade of performance. The result in model 3 also shows that conflicts decrease the development of margins. The main reasons for conflicts between franchisors and franchisees are: conflict of distribution power, decision of assortment, and so on. Therefore, in order to improve franchise performance, franchisors need to pay attention to reduce conflicts with franchisees.

Finally, the satisfaction of franchisees with franchisors' concerns is only positively statistically significant at a 5 percent level in Model 1. This result shows that the more attention franchisors focus on franchise operations, the higher the franchise performance.

5. Discussion, conclusion, implications and further research

Factor analysis is a useful methodology to assess the structure underlying the attitude statements from franchisees. In this paper, we

employ Principal Component Analysis since the main objective in the first step is to summarize most of original information of attitude variables in a minimum number of factors for prediction purposes in the second step. Based on factor analysis, there are three franchisee attitudes generally affecting franchise performance including satisfaction with franchisor's characteristics, attitudes towards conflicts between franchisors and franchisees and satisfaction of franchisor's concerns.

Regarding results in the Hierarchical Model, we find similar results to those of Gassenheimer et al. (1996), where there was negative relationship between franchisee performance and the number of years of a franchisee in the franchise system. In our case, the longer the years franchisees participated in a franchise chain meant a decrease in their improvement of margins and sales. Moreover, supporting Castrogiovanni et al.'s (1993) argument, we find the result that the higher the number of full time employees working in a franchisee's operation the better the franchisee performance. We find mixed results in the percentage of obligatory assortment. Our results are similar to current debates in this issue since some research claims that the higher percentage of obligatory assortment of franchisor to franchisee is good for franchise performance, but some do not agree with this argument. Similar to the findings of Frazer et al. (2007) and Coughlan et al. (2001), we find evidence that the greater the power distribution of franchisor to franchisee, the better the franchisees' performance. In contrast to prior research (Feistead, 1991), we find that the higher the frequency franchisors visit franchisees, the less improvement there is in the franchisee's

development of sales.

So far, we have discussed some factors influencing franchise performance. In sum, in order to improve franchise performance, franchisors need to pay attention more to their characteristics such as communication, delivery, and so on to satisfy franchisees. Moreover, conflicts regarding contracts, power distribution and business control between franchisors and franchisees are inevitable. Therefore, in order to improve franchise performance, franchisors need to consider the distribution of power to franchisees, the contract establishment and so on to reduce the conflicts. Regarding other determinants, our results are similar to those in current debates in the literature. We cannot give clear suggestions to franchisors and franchisees but factors such as the history of the franchisee, the number of employees, the percentage of obligatory assortment, and the frequency of visits of franchisors to franchisees are considerably important factors in determining franchise performance. Franchisors need to take into account these factors when evaluating franchisee's performance.

This study evaluates franchise performance by determining factors affecting franchisee performance. With the emergence of franchisors in the global economy, there is also a need to implement additional studies that focus on franchisor's performance. This will help resolve differences in findings between franchisor and franchisee performance. Moreover, further research may apply different methodology to determine factors influencing franchise performance.

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