Giorgio ZANARONE[*]

Vertical Restraints and the Law: Evidence from Automobile Franchising

Forthcoming in *Journal of Law and Economics*, vol. 52, Fall 2009

This version, August 2008

Abstract

This paper shows that, after a 2002 European regulation prohibited the use of dealer-exclusive territories, automobile franchise contracts in Italy introduced price ceilings and standards on verifiable marketing and service inputs, such as advertising and salespeople. The contracts also imposed quantity floors, a practice already in use before the regulatory change. The introduction of standards suggests that, consistent with a view of vertical restraints as coordination mechanisms, manufacturers used exclusive territories to induce desired dealer services and, once prohibited, switched to alternative contractual devices to achieve this goal. The introduction of price ceilings despite free intrabrand competition also suggests car manufacturers tried to prevent some dealers from "gaming" the quantity floors by selling to other dealers' customers, while charging monopolistic prices at their own location.

Keywords: Dealership Contracts, Freeriding, Regulatory Change, Vertical Restraints.

JEL codes: K21; L14; M21

[*] Colegio Universitario de Estudios Financieros (CUNEF). E-mail: gzanarone@cunef.edu. I am grateful to Benito Arruñada and Robert Gibbons for valuable advice. I thank Giuseppe Zanarone for helpful discussions and support, Pierre Azoulay, Pablo Casas-Arce, Gregory Corcos, Vicente Cuñat, Nicola Gennaioli, Ricard Gil, Richard Holden, Francine Lafontaine, Antonio Nicita, Roberto Pardolesi, Francisco Ruiz-Aliseda, Michael Sykuta, Eric van den Steen, Ernesto Villanueva, Patrick Warren, Birger Wernerfelt and three anonymous referees for their comments and suggestions.

1. Introduction

Several works have studied vertical restraints as mechanisms to coordinate the price and service decisions of independent dealers.[1] According to early models, restraints on intrabrand competition, such as exclusive territories and resale price maintenance, prevent dealers from freeriding on each other's pre-sale services—attention to the customer, local advertising, quality certification, and the like—and, combined with quantity floors or non-linear pricing to avoid double marginalization, give dealers the incentives to efficiently choose price and service effort (Telser (1960, 1990), Marvel and McCafferty (1984), Mathewson and Winter (1984), Rey and Tirole (1986), Tirole (1988)).[2] Klein and Murphy (1988) extended these theories, arguing that, even when restraints on competition are not effective, manufacturers can elicit dealer services via relational contracts, using the threat of termination and an appropriate mix of vertical restraints to sustain them.[3] In particular, provisions such as exclusive territories and price floors create monopolistic quasi-rents dealers lose upon termination, while other provisions, such as verifiable constraints on inputs and dealer behavior, reduce their short-run temptation to renege (Klein and Murphy (1988), Klein (1995, 2000), Lafontaine and Raynaud (2002), Baker *et al*. (2008)).

Despite this rich theoretical literature, there is still limited evidence on how real-world vertical agreements deal with the freeriding problem (Ippolito (1991), Brickley (1999),

[1] There is also an extensive literature on vertical restraints as mechanisms to strengthen the market power of manufacturers and dealers. While I do not discuss this literature here, the interested readers can find a detailed survey of both coordination and monopolization theories of vertical restraints in Rey and Vergé (2008).

[2] Winter (1993) shows that restraints on intrabrand competition can improve the dealers' choice of price and services even in the absence of inter-dealer freeriding.

[3] See, also, Klein (1980) and Hadfield (1990). For an empirical assessment of the disciplinary role of termination in franchise distribution, see Brickley *et al*. (1991) and Brickley (2002).

Arruñada *et al*. (2001)). Particularly, there is no evidence on how exogenous constraints, such as public regulations, affect the choice between different types of vertical restraints. This paper fills the gap, providing data on how Italian car dealership contracts responded to a 2002 European regulation, which prohibited the use of dealer-exclusive territories and other restrictions on intrabrand competition. To my knowledge, these data offer the first systematic account of how vertical restraints in an industry interact with the legal regime and with each other to coordinate dealer behavior.

For each of 19 car manufacturers, I compare the dealership contracts they used in Italy before and after the regulatory change. I find that contracts under the 2002 regulation replaced the mix of exclusive territories and quantity floors dominant in previous contracts with a mix of quantity floors, price ceilings and standards on dealers' verifiable inputs, such as salespeople and advertising. Consistent with a view of vertical restraints as coordination mechanisms, the introduction of standards suggests manufacturers used exclusive territories to prevent freeriding and induce desired dealer services and, once prohibited, switched to alternative contractual devices to achieve this goal. On the other hand, the use of price ceilings despite free intrabrand competition suggests that, after the regulatory change, manufacturers were concerned with the possibility that some dealers would "game" the quantity floors by selling extensively to other dealers' customers, and, at the same time, act as monopolists in their own territories, supplying inefficiently low services and charging excessive prices. Price ceilings allow manufacturers to mitigate the effect of this vertical externality on retail prices and sales, and to increase, that way, network profits.

The rest of this paper is organized as follows. Section 2 discusses the incentive conflicts between car manufacturers and dealers, and how vertical restraints help correct them. Section 3 describes the data. Section 4 discusses the empirical results and how they relate to the economic theories of vertical restraints. Section 5 concludes.

2. Externalities and vertical restraints in car distribution

The relations between product manufacturers and their dealers are plagued with externalities. These arise when the consequences of a dealer's price and service decisions are partially borne by other dealers in the distribution network, or by the manufacturer, and result, if uncorrected, in retail prices and levels of customer service different from the ones that maximize network profits. In the automobile industry, a major concern of car manufacturers is that dealers advertise the brand locally, and spend effort in persuading customers to purchase—for instance, by displaying automobiles in clean and well-designed showrooms, providing technical information to prospective buyers, and offering free trials. Since most of these services are received by consumers prior to purchase, their positive impact on sales is shared between closely located dealers of the same manufacturer, who have an incentive to freeride on each other's services and compete in price. Consequently, each dealer has scarce incentives to incur the cost of providing the services, which are supplied at an inefficiently low level.

As argued by Telser (1960, 1990) and, more formally, by Mathewson and Winter (1984), this freeriding problem can be corrected by restraints on the dealers' ability to compete in price, such as resale price maintenance and exclusive territories, which force dealers to focus on their own pools of customers, allowing them to internalize the effect of pre-sale services on local output. Also, restraints on competition assure a supra-competitive margin to dealers, which manufacturers can threaten to expropriate by terminating the contract, thus inducing dealers to supply the desired services (Klein and Murphy (1988)). While the use of resale price maintenance is limited by antitrust law, it is common, in automobile distribution, to assign dealers to exclusive territories, and to protect them from encroachment by other dealers and, sometimes, by the manufacturer (Smith (1982)). The drawback of exclusive territories is that, by limiting intrabrand competition, they enable dealers to set monopolistic prices and services. Since the dealers' marginal return on sales, given by the retail price minus the wholesale price charged by the manufacturer, is smaller than the vertical chain's marginal return, which is given by the retail price alone, this results in higher prices and lower levels of service than optimal. Manufacturers can correct the distortion in price resulting from this vertical externality, also known as double marginalization (Spengler (1950)), by imposing a price ceiling on the dealers. Also, they can correct both the distortion in price and the one in customer services by imposing a quantity floor, or by using non-linear pricing schemes, according to which dealers buy cars at the marginal production cost, thus appropriating the vertical chain's sales margin, and, in exchange, pay an ex ante fee to the manufacturer (Mathewson and Winter (1983)). In practice, non-linear pricing is rarely observed in automobile distribution; conversely, quantity floors, both in the form of minimum purchase requirements and of sales targets, are widely used.[4]

[4] Economists have emphasized several reasons for why non-linear pricing may not be observed in dealership contracts, such as dealer risk-aversion (Rey and Tirole (1986); the need to provide manufacturers with

To induce dealer services, manufacturers can also impose direct constraints on local inputs, such as minimum size and qualification requirements for dealer salespeople, guidelines on advertising, showroom cleanness and design, and the like. The efficacy of these restraints—known in the industry as service standards—is limited by the cost of monitoring their compliance through inspections, and by the fact that dealers retain control on more subtle aspects of service effort, such as courtesy, professionality and persuasiveness. For these reasons, it may be preferable for manufacturers to align the dealers' incentives through a mix of restraints on intrabrand competition and quantity, and to set only those standards that are essential to define and protect the brand, such as the ones on showroom design and trademarks, leaving dealers free to choose the aspects of service that are more sensitive to their "soft" information about customers (Meese (2004)). However, when aligning the dealers' incentives is difficult—for instance, because restraints on competition are easy to circumvent (Klein and Murphy (1988)) or prohibited by the law—detailed standards dictated by the manufacturer can provide a second best solution to coordinate dealer services.

3. Data

In 1995, the European Commission passed a regulation of car distribution making price floors and quantity ceilings illegal, on the grounds that these provisions, by restricting intrabrand competition, obstructed the free circulation of cars throughout the EU. This still left some scope for manufacturers to limit intrabrand competition by assigning dealers to

---

incentives for brand-maintenance and monitoring effort (Lafontaine (1992), Mathewson and Winter (1994)); and the risk that, once dealers pay a franchise fee, courts may be more inclined to overturn disciplinary dealer terminations as expropriatory and contrary to good faith (Klein (1980, 1995)).

exclusive territories. In 2002, however, the European Commission passed a stricter regulation, which eliminated the so called "location clauses", that is, contractual provisions preventing authorized dealers from selling, advertising and opening new outlets out of their territory. To reinforce this measure, the 2002 regulation also prohibited territorial sales targets, that is, provisions requiring dealers to sell a minimum amount of cars within a specific territory.[5] In the rest of the paper, I study how automobile franchise contracts in Italy have adapted to this regulatory change. This allows to assess whether the use of vertical restraints in automobile franchise contracts reflects the manufacturers' need to prevent inter-dealer freeriding on pre-sale services, as emphasized by the economic theories discussed in section 2.

For each of 19 car manufacturers, I examine two contracts, the first one in force between 1995 and 2002, and disciplined by the expired EC Regulation 1475/1995, and the second one in force since 2002, and disciplined by the current EC Regulation 1400/2002. This results in a sample of 38 contracts.[6] As required by the "no discrimination" covenant of European antitrust law, each manufacturer's contract applies to all the dealers selling his cars in Italy. This implies that, for instance, the same vertical restraints apply to all Italian Ford dealers. To complement the information provided by contracts, I have also conducted in-depth interviews with several top managers of car manufacturers and dealers, as well as

[5] Under the 2002 regulation, manufacturers can still require dealers to achieve sales targets. However, they are obliged to take the whole European Union, rather than the dealers' narrow territories, as the reference market to verify fulfillment of the target.

[6] The contracts in this study represent the following manufacturers: Ford, Opel-General Motors, Toyota, Mitsubishi, Mazda, Mercedes, BMW, Volkswagen, Audi, Peugeot, Citroen, Renault, Volvo, Jaguar, Land Rover, Seat, Fiat, Alfa Romeo and Lancia. Although some manufacturers are owned by the same group, they typically use different dealership contracts. For instance, the Jaguar and Land Rover contracts are different from the Ford one, even though Jaguar and Land Rover belonged to the Ford group when the contracts were collected.

with a lawyer, who has represented numerous manufacturers and dealers in court and has assisted them in preparing dealership contracts.[7] Overall, manufacturers in this survey realized, in 2004, 85% of new car sales in Italy (83% in the whole European Union), making my sample of contracts largely representative of the industry.[8] Some managers even suggested that, due to the existence of a common regulator, manufacturers use the same dealership contract all over the European Union, merely translating it in each country's language. Since I could not confirm this information for all 19 manufacturers, I will conservatively refer to Italy when analyzing the data. However, it is useful to keep in mind that the results in this paper hold the promise to extend to the entire European automobile industry.

4. Results

Table 1 lists the vertical restraints in Italian dealership contracts before and after the legal prohibition of exclusive territories. Based on the theories of discussed in section 2, we would expect that, before this regulatory change, car manufacturers assign dealers to exclusive territories, in order to prevent them from freeriding on each other's pre-sale services. We would also expect manufacturers to impose quantity floors, in order to avoid that, once protected from intrabrand competition, dealers set monopolistic prices and services. On the other hand, we would expect that, after the 2002 regulation prohibited exclusive territories, manufacturers increasingly resort to direct constraints on the dealers'

[7] The managers who participated in the interviews represent the Italian networks of Peugeot, Citroen, Renault, Volkswagen, Audi, Skoda, Jaguar, Porsche, Nissan, Honda, Fiat, Alfa Romeo, Lancia and Volvo.
[8] The source of this data is the GMAP European Car Distribution Handbook, 2005 edition.

inputs, such as salespeople and advertising, to limit the extent of freeriding and elicit a minimum level of customer service.

<TABLE 1 HERE>

4.2. The use of service standards

Consistent with these theoretical predictions, *all contracts* under the 1995 regulation contained an exclusive territory provision and imposed a quantity floor (Table 1). After the European Commission made exclusive territories illegal, car manufacturers switched to various types of verifiable standards to elicit dealer provision of services. In particular, the proportion of clauses requiring dealers to contribute an advertising fee to a manufacturer-controlled fund is substantially greater in contracts under the 2002 regulation, suggesting manufacturers have responded to the dealers' diminished incentives to advertise by performing more advertising directly and charging dealers accordingly. Also, the proportions of clauses requiring dealers to have a minimum operating capital, to achieve customer satisfaction targets, to hire salespeople with prescribed qualifications, and to implement customer satisfaction programs are significantly greater in contracts under the 2002 regulation.

The need to prevent inter-dealer freeriding also explains why, in apparent contrast with the previous results, clauses requiring dealers to set a minimum advertising budget, to use advertising materials of prescribed quality, and to employ a minimum number of salespeople slightly diminished after the regulatory change. The reason becomes clear if one recalls that the 2002 regulation, by increasing the dealers' ability to compete, raised, on one hand, their incentives to advertise and sell in other dealers' territories, and, on the other hand, reduced their incentives to provide qualified salespeople and advertising in their own territory. As a result, dealers are tempted to "game" ambiguous constraints on advertising and salespeople. For instance, they may spend the prescribed advertising budget to capture other dealers' customers instead of promoting the manufacturer's brand in their territory; they may exploit ambiguities in the manufacturer's directives on advertising quality to minimize effort; and they may choose poorly qualified salespeople or family members to reduce recruitment and training costs. Not surprisingly, then, manufacturers are now more keen to collect fees from the dealers and use them to advertise directly, and to require that salespeople obtain verifiable qualifications before being put on the dealers' payrolls.

4.3. The use of quantity floors and price ceilings

As shown in Table 1, all contracts under the 2002 regulation—as the ones under the 1995 regulation—imposed a quantity floor on car dealers. Moreover, contracts after the regulatory change increasingly imposed price ceilings. The introduction of price ceilings after the law liberalized intrabrand competition is somewhat puzzling, since we would expect competition to reduce, rather than increase retail prices. As an explanation, I suggest that, due to asymmetries between dealers in terms of local reputation and financial resources and, possibly, to the existence of implicit agreements to limit intra-brand competition,[9] some dealers may enjoy monopoly power even after the 2002 regulation prohibited exclusive territories. Due to a vertical externality, these dealer-monopolists would have an incentive to overprice and supply too little services, relative to the level that maximizes chain profits. While, absent intra-brand competition, quantity floors would be sufficient to correct this vertical externality, under free intrabrand competition, a dealer with local market power could "game" the quantity floor by selling to other dealers' customers—a practice known in the industry as "invasion"—and, at the same time, keep earning monopoly profits at her location. Imposing a price ceiling would force the dealer-monopolist to decrease retail prices and increase sales in her territory, thus limiting the extent of "gaming" allowed by the liberalization of intrabrand competition.

4.4. Network consolidation

Between 1995 and 2002, most Italian dealership networks have been reorganized around fewer and larger dealers, in response to an increase in interbrand competition caused by the entry of new brands (Tata) and the strengthening of old ones (Toyota, Nissan). As a result, the average network size has diminished by 18%, passing from 188 to 154 dealers.[10] It could then be argued that contracts written after 2002 have introduced price ceilings and service standards to prevent vertical externalities in smaller, less competitive networks, rather than to respond to the regulatory change. However, unreported regressions, available upon request, indicate that, even controlling for network size, the regulatory change had the

[9] For a formal analysis of this argument, see Zanarone (2007).
[10] This data has been provided by FEDERAICPA, the Italian federal association of car dealers.

same effect on the mix of vertical restraints as shown in Table 1, whereas network size had no significant effect.

4.5. Regulatory change and firm performance

The legal prohibition of exclusive territories may affect the economic performance of car manufacturers and dealers, in addition to the design of franchise contracts. In particular, if exclusive territories were used to induce desired dealer services, and their prohibition forced manufacturers to switch to second-best contractual restraints, one may expect car sales to decline after the regulatory change (Ippolito and Overstreet (1996)), especially for brands whose value is most affected by dealer services. Also, one may expect that the manufacturers' operating costs increase, and their profits decrease, as they adopted more costly contractual devices—such as directly monitored service standards—in response to the regulatory change.[11]

Unfortunately, the available data seem insufficient to assess the effect of the regulatory change on sales and profits empirically. A major limitation in this sense is imposed by the transitional clause in the 2002 European regulation, which gave manufacturers time until October 2005 to effect the prohibition of exclusive territories. This rule was reflected in the contracts written after the regulatory change, all of which specified that dealers will be free to open new outlets and advertise out of their territory *only after* October 31, 2005. Assuming an adjustment period of one year, this means that the only data that could be

[11] See Lafontaine and Slade (2008) for a recent review of empirical works that have studied the economic effects of vertical restraints on sales, profits, and other economic variables.

used to estimate the effect of the regulatory change on manufacturer sales are from 2007—admittedly, a small source of variation to control for all possibly correlated determinants of sales.

In fact, there are reasons to expect the adjustment period to be longer than a year, which would require even larger time series of data to estimate the regulation's effect on car sales. The reason is that manufacturers maintain long-term relationships with dealers, which may enable them, at least for some time, to circumvent the regulation and enforce exclusive territories via informal agreements. This conjecture finds anecdotal support in the interviews I had with managers of manufacturers and Italian dealers. The managers reported that, as of January-February 2007 (months in which the interviews were conducted), almost no dealer had taken advantage of the regulatory change to open outlets and sales points out of her territory, and that they did not expect this to occur in the near future because, to use the colourful expression of one of them, most dealers "cannot afford to declare war to manufacturers".

On the other hand, dealership contracts were adapted to the new legal framework immediately after the 2002 regulation was passed, and are not expected to be modified until the next major regulatory change. Therefore, the new provisions in these contracts, which were analyzed in the previous sections, are likely to reflect all relevant changes in dealer behavior expected by manufacturers in the course of the contractual relationship, even if such changes, and their impact on services and sales, are not expected in the short run.

5. Conclusion

This paper has shown that, after a 2002 European regulation prohibited the use of dealer-exclusive territories, automobile franchise contracts in Italy introduced price ceilings and standards on verifiable marketing and service inputs, such as advertising and salespeople. In addition, contracts continued to impose quantity floors on the dealers, as they did before the regulatory change. The introduction of standards suggests manufacturers used exclusive territories to induce desired dealer services and, once prohibited, had to switch to alternative contractual devices to achieve this goal. The use of price ceilings despite free intrabrand competition also suggests that, after the regulatory change, manufacturers were concerned with some dealers being able to "game" the quantity floor by selling in other dealers' territories, while acting as monopolists in their own ones. Price ceilings prevent these dealers from setting monopolistic prices, thus reducing the extent of "gaming". Taken together, these results are consistent with the view, shared by a broad range of economic theories, that vertical restraints are used to control horizontal and vertical externalities, and to coordinate the price and service decisions of independent dealers.

References

ARRUÑADA, B., GARICANO, L. and L. VÁZQUEZ, (2001), "Contractual Allocation of Decision Rights and Incentives: The Case of Automobile Distribution," *Journal of Law, Economics and Organization* 15: 56-73.

BAKER, G., R. GIBBONS and K. J. MURPHY, (2008), "Relational Adaptation," unpublished manuscript, USC Marshall School.

BRICKLEY, J., (2002), "Royalty Rates and Upfront Fees in Share Contracts: Evidence from Franchising," *Journal of Law, Economics and Organization* 18: 511-535.

BRICKLEY, J., (1999), "Incentive Conflicts and Contractual Restraints: Evidence from Franchising," *Journal of Law and Economics* 42: 745-774.

BRICKLEY, J., F. DARK, and M. WEISBACH, (1991), "The Economic Effect of Franchise Termination Laws," *Journal of Law and Economics* 34: 101-132.

IPPOLITO, P., (1991), "Resale Price Maintenance: Economic Evidence from Litigation," *Journal of Law and Economics* 34: 263-294.

IPPOLITO, P., and T. OVERSTREET, (1996), "Resale Price Maintenance: An Economic Assessment of the Federal Trade Commission's Case Against the Corning Glass Works," *Journal of Law and Economics* 39: 285-328.

KLEIN, B., (2000), "The Role of Incomplete Contracts in Self-Enforcing Relationships," *Revue d'Economie Industrielle* 92: 67-80.

KLEIN, B., (1995), "The Economics of Franchise Contracts," *Journal of Corporate Finance* 2: 9-37.

KLEIN, B., (1980), "Transaction Cost determinants of Unfair Contractual Arrangements," *American Economic Review* 70: 356-362.

KLEIN, B. and K. M. MURPHY, (1988), "Vertical Restraints as Contract Enforcement Mechanisms," *Journal of Law and Economics* 31: 265-297.

LAFONTAINE, F., (1992), "Agency Theory and Franchising: Some Empirical Results," *RAND Journal of Economics* 23: 263-283.

LAFONTAINE, F. and E. RAYNAUD, (2002), "Residual Claims and Self-Enforcement as Incentive Mechanisms in Franchise Contracts: Substitutes or Complements?" In E. Brousseau and J-M. Glachant (eds.), *The Economics of Contracts: Theories and Applications*. New York: Cambridge University Press.

LAFONTAINE, F. and M. SLADE, (2008), "Exclusive Contracts and Vertical Restraints," in P. Buccirossi (ed.), *Handbook of Antitrust Economics*. Cambridge: MIT Press, 391-415.

MARVEL, H. and S. McCAFFERTY, (1984), "Resale Price Maintenance and Quality Certification," *RAND Journal of Economics* 15: 340-359.

MATHEWSON, F. and R. WINTER, (1994), "Territorial Restrictions in Franchise Contracts," *Economic Inquiry* 32: 181-192.

MATHEWSON, F. and R. WINTER, (1984), "An Economic Theory of Vertical Restraints," *RAND Journal of Economics* 15: 27-38.

MATHEWSON, F. and R. WINTER, (1983), "Vertical Integration by Contractual Restraints in Spatial Markets," *Journal of Business* 56: 497-517.

MEESE, A., (2004), "Property Rights and Intrabrand Restraints," *Cornell Law Review* 89: 553-620.

REY, P. and J. TIROLE, (1986), "The Logic of Vertical Restraints," *American Economic Review* 76: 921-939.

REY, P. and T. VERGÉ, (2008), "The Economics of Vertical Restraints," in P. Buccirossi (ed.), *Handbook of Antitrust Economics*. Cambridge: MIT Press, 353-391.

SMITH II, R., (1982), "Franchise Regulation: An Economic Analysis of State Restrictions on Automobile Distribution," *Journal of Law and Economics* 25: 125-157.

SPENGLER, J., (1950), "Vertical Integration and Antitrust Policy," *Journal of Political Economy* 58: 347-352.

TELSER, L., (1990), "Why Should Manufacturers Want Fair Trade II?" *Journal of Law and Economics* 33: 409-417.

TELSER, L., (1960), "Why Should Manufacturers Want Fair Trade?" *Journal of Law and Economics* 3: 86-108.

TIROLE, J., (1988), "The Theory of Industrial Organization," Cambridge: MIT Press.

TONGUE, A., (2006), "The Block-Exemption Half-Way to 2010," ICDP Research Report 07/06.

TONGUE, A., (2003), “Understanding 1400/2002: What it is, what it Means,” ICDP Research Report 01/03.

WINTER, R., (1993), “Vertical Control and Price Versus Non-Price Competition,” *Quarterly Journal of Economics* 108: 61-76.

ZANARONE, G., “Vertical Restraints in Relational Contracts,” unpublished manuscript (www.econ.upf.edu/~zanarone, accessed on May 24, 2008).

Table 1. Vertical restraints before and after the 2002 regulation prohibited exclusive territories

Clause assigning to manufacturer right to impose	*Proportion in contracts under 1995 regulation*	*Proportion in contracts under 2002 regulation*	*Difference in proportions (2002-1995)*
Exclusive territory	1	0	-1
Quantity floor	1	1	0
Price ceiling	0.05	0.57	0.52^{***}
Advertising contribution	0.15	0.52	0.36^{***}
Advertising quality	0.68	0.52	-0.15
Advertising budget	0.26	0.15	-0.10
Size of personnel	0.52	0.47	-0.05
Qualification of personnel	0.15	0.36	0.21
Mandatory training	0.68	0.73	0.05
Operating capital	0.10	0.36	0.26^{*}
Customer satisfaction programs	0.27	0.47	0.19
Customer satisfaction targets	0.27	0.52	0.24
General duty to respect standards	0.10	0.63	0.52^{***}
Number of contracts		19	

Notes: *** Significant at 1% level. ** Significant at 5% level. * Significant at 10% level.