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Study of opportunism in marketing channel from the theory of reference groups; An empirical analysis

Estudio del oportunismo en el canal de distribución desde la teoría de grupos de referencia; un análisis empírico

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Abstract

The objective of this research is to analyze opportunism in the distribution channel through a peculiar form: the participation in gray market of official cannel distributor. The sociological theory of reference groups is used in order to explain opportunism in the distribution channel imitating the members of reference groups. The hypotheses presented are contrasted with a sample of Spanish wholesale distributors of Fast Moving Consumer Goods (FMCG), finding evidence that the imitation effect of opportunism can be graduated according to the hierarchical position occupied for the original opportunist within the reference group.

JEL Code: M31, M10, M19
Keywords: opportunism; marketing channel; gray market; reference groups

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Resumen

El presente trabajo de investigación tiene por objeto analizar el oportunismo en el canal de distribución mediante una de sus formas más peculiares: la participación en un mercado paralelo de un distribuidor del canal oficial. Para ello se recurre a la teoría sociológica de grupos de referencia con el objeto de explicar el oportunismo en el canal de distribución mediante la imitación de los miembros del grupo de referencia. Las hipótesis expuestas se contrastan con una muestra de distribuidores mayoristas españoles de productos de gran consumo, encontrando evidencias de que el efecto imitación del oportunismo puede graduarse en función de la posición jerárquica que ocupa el oportunista original dentro del grupo de referencia.

Código JEL: M31, M10
Palabras clave: oportunismo; canal de distribución; mercado paralelo; grupos de referencia

Introduction

Neoclassical economics has ignored the concept of the company in a broad sense, reducing it to a mere production function (Rindflesich & Heide, 1997). Nevertheless, companies are, along with markets, alternative governance structures to each other that differ in their transaction costs, so that economic activity is situated on a continuum from making to buying in the market as a function of their transaction costs (Williamsom & Ghani, 2012). The Transaction Cost Theory (TCT) seeks to explain how economic transactions are organized, emerging as one of the dominant theoretical paradigms in Business to Business (B2B) research (Rindfleisch *et al.*, 2010).

Therefore, the choice between making or buying will be conditioned by the relative efficiency of each governance formula (Anderson, 2008). There is a broad consensus in the literature on analyzing transaction costs as a necessary step in making strategic marketing decisions (Williamson & Ghani, 2012). This analysis will guide actions such as the internalization of functions within the company (vertical integration), the entry into new markets, the control and economic compensation of the sales network, strategies in industrial purchasing markets, or the management of distribution channels (Anderson & Weitz, 1992).

When analyzing transaction costs and how they condition business decisions, the Transaction Cost Theory assumes as a basic behavioral assumption that the different economic agents are opportunistic in their actions, opportunism that Williamson (1975, p. 6) defined as "the pursuit of self-interest with cunning." The opportunistic behavior of agents in the distribution channel is a source of higher transaction costs due to the need to perform a rigorous selection before their incorporation (ex-ante cost) and subsequently monitor their actions (ex-post cost), conditioning decisions in many areas of business (Rindfleisch, 2019). This paper analyzes opportunism in the context of distribution channel decisions,

where some agents unilaterally decide to advance their own position to improve their profits at the expense of their channel partner (Brown *et al.*, 2000).

Opportunism is a major threat to knowledge and resource-sharing networks, as in a distribution channel (Hawkins *et al.*, 2008; Morgan *et al.*, 2016). In the channel, opportunism is a common behavior (Grzeskowiak & Al-Khatib, 2009; Mysen *et al.*, 2011) that surfaces due to the complexities of human behavior in exchange relations where parties find advantages in maximizing their own benefit to the detriment of the exchange partner (Xue *et al.*, 2018) due to the increasing competition in this area of business activity (Gould *et al.*, 2016).

Therefore, the opportunistic behaviors included in the manufacturer-distributor relationships in the distribution channel range from the exploitation of the relationship for their own benefit (Wathne & Heide, 2000) to the restriction of value creation due to insufficient cooperation (Morgan & Hunt, 1994) or the erosion of the results of the exchange (Hawkins *et al.*, 2008). The most blatant opportunism observed in the channel is undoubtedly the transgression of agreements in the manufacturer-distributor relationship through breaches of obligations or exploitation of loopholes in the agreements (Ganesan *et al.*, 2010). From this last manifestation of opportunism, the participation of certain agents of a distribution channel in a parallel market arises (Cao & Zhang, 2019).

The parallel market (gray market) is an opportunistic action consisting of "the sale of genuine branded products through distributors operating in channels not authorized by the manufacturer or brand owner" (Antia *et al.*, 2006, p. 92). It is easily observed when the product intentionally sold in one market (country, territory, type of customer) is resold in another without the manufacturer's authorization (Cao & Zhang, 2019). This type of activity is motivated by existing price differences between the source and destination markets, which may stem from exchange rate fluctuations, pricing schemes of various market segments, tax differences, or different consumer preferences (Gudigantala & Bicen, 2019).

The parallel market is a phenomenon explained by the existence of an official distribution of products, usually prestige or branded, whose distribution is composed of the manufacturer or brand owner and those distributors selected (expressly or tacitly) to carry out the distribution of their products (Gudigantala & Bicen, 2019). The opportunism of one component of official distribution (Official Distributor 1) arises through a breach of its agreements by transacting with intermediaries or in markets not included in its scope of distribution (Li *et al.*, 2021), which is illustrated in Figure 1.

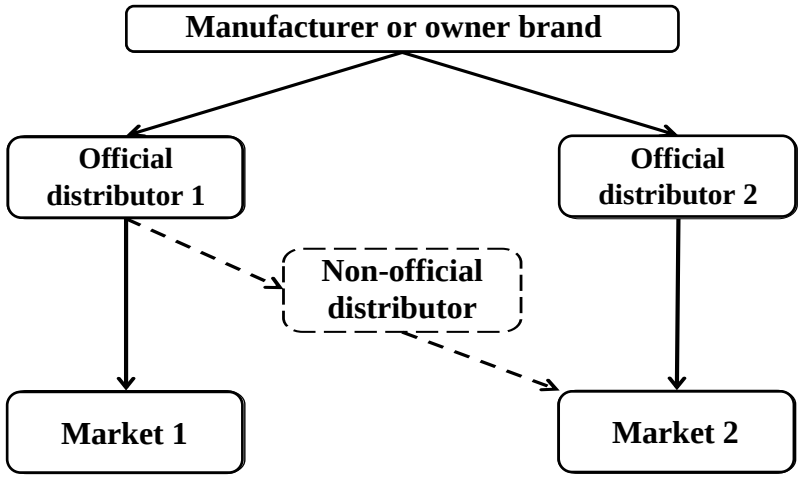

Figure 1. Parallel market in an official distribution environment.

The business of intervention in a parallel market for an intermediary not included in the official distribution consists of the benefit it obtains by deliberately manipulating the prices at which it operates in the different markets (Antia et al., 2004; Zhao et al., 2021) since the official distribution exploits the different elasticities of demand by setting a higher price for the same product in those areas where consumers are willing to pay it (Díaz et al., 2020; Gallini & Hollis, 1999).

A parallel distributor obtains added value by sourcing in the cheapest market and selling in the most expensive one (Srivastava & Mateen, 2020), but what benefits does an official distributor obtain from these actions? In this regard, Wathne and Heide (2000) point out that one of the results pursued with opportunistic behavior is the unilateral increase in the assigned revenue share, a situation that occurs with the additional revenue from operations in the parallel market. The manufacturer or brand owner can also carry out this type of transaction when there is a pressing need for sales or quick transactions (Antia et al., 2004).

The importance of the impact that the opportunism of participation in parallel markets has on the distribution of prestige or branded products can be seen in the volumes they reach in some sectors (Zhao et al., 2021), as shown by the founding of an association to syndicate their defense, AGMA (Alliance for Gray Market and Counterfeit Abatement, https://agmaglobal.org/), comprising manufacturers and intermediaries of technology products (such as HP, CISCO, IBM). Worldwide, the trade volume in the parallel market amounts to tens of billions of dollars annually, notably in the case of the European Union, where approximately 10% of pharmaceutical drugs are distributed through the

parallel market (Lu et al., 2020). Regarding the impact that the global COVID-19 pandemic has had on this type of opportunism, it has been found that transactions through e-commerce increase the incidence of the parallel market, as it favors information and accessibility to price differentiations for the same product (Zhang & Feng, 2017: Zhao et al., 2016). In a study by Lu et al. (2020), it is observed that parallel distribution markets have grown exponentially in recent years due to the rise of e-commerce and the global logistics network.

This research analyzes opportunism in the distribution channel (participation of an official distributor in the parallel market) through an effect that has been scarcely discussed in the literature: the imitation effect of certain actions on the members of a reference group or strategic group. Thus, Hult (2011) observes that the group's pressure on its members causes an imitation effect of behaviors among them. Based on the work of Siguaw et al. (1998), Chung et al. (2015) establish that the members with greater power in the official distribution channel are a reference group for its members. This imitation effect occurs from one member to another and is more severe when the member to be imitated enjoys a higher hierarchical position (Haas & Park, 2010).

The aim of this research was, firstly, to find out the motivations for opportunism (participation in a parallel distribution market) for an agent that is part of the official distribution network of Fast Moving Consumer Goods (FMCG). Secondly, to analyze what role the actions of the remaining members of the official network play in its disposition to opportunism and, therefore, whether Reference Group Theory is applicable as a motivation for opportunism (Liu et al., 2015) and, by extension, as a guide to the decisions that agents make in the distribution channel (Chung et al., 2011; Kelley, 1965; and Siguaw et al., 1998). This study not only finds that the actions of the members of the reference group (official distribution channel) motivate opportunistic actions when they are observed in other members but also establishes that this imitation effect can be graded according to the role played by the agent to be imitated within the reference group. In the following sections, a review of the literature will lead to the formulation of the hypotheses, which will then be contrasted employing an empirical analysis from which conclusions and recommendations for business management will be obtained.

Literature review and hypotheses

The literature defines opportunism as the cunning pursuit of self-interest based on the Transaction Cost Theory's assumption of the behavior of economic agents (Williamson, 1975). This cunning observed in opportunism takes the form of efforts designed to deceive, lie, obfuscate, or confuse (Cavusgil et al., 2004) and in actions such as breach of contract, distortion of data, confusing transactions, false promises, concealment, or withholding of information (Hawkins et al., 2008; Paswan, 2009).

Opportunistic behavior occurs when two conditions concur: when such behavior is feasible and when it is beneficial to the opportunist (Wang & Yang, 2013). Opportunism does not include situations such as intransigence in negotiation, intensity and frequency of disagreements, conflictual behavior (John, 1984), or joint agreement to modify conditions and adjustments to the terms of a contract (Wathne & Heide, 2000).

Opportunism represents a personal, social, and economic challenge to inter-organizational relationships, involving actions by one party that are directly detrimental to the interests of the other so that such behavior causes a sense of betrayal of trust in the aggrieved party (Ganesan et al., 2010). This situation threatens organizations' long-term benefits as they result in non-cooperative actions in exchange relationships (Morgan et al., 2016). Thus, opportunism is undesirable in business relationships (Wathne & Heide, 2000).

From the point of view of the distribution channel, opportunism is characterized by strategic manipulation of information or misrepresentation of intentions that raises coordination costs as well as consuming resources since a considerable amount of resources must be allocated to the control and monitoring of agreements rather than to more useful applications, such as the development of the distribution channel (Anselmi & Marquardt, 2000). It is also identified with situations such as the transgression of the rules of a relationship through behaviors that involve evading obligations, taking advantage of contractual loopholes, or demanding unfair concessions by taking advantage of certain market situations (Ganesan et al., 2010). In conclusion, it provokes environments of uncertainty in the exchange (Anderson, 2008).

Transaction Cost Theory presents opportunism as a basic and general behavioral assumption, where it is assumed that related economic agents will generally behave opportunistically (Williamson, 1975). However, some research shows that behavior may not be so Machiavellian, especially in long-term relationships. John (1984, p. 278) states that "although some people are not always completely honest, it is probably too pessimistic to consider that they will always be dishonest."

This duality in the assumption of opportunistic behavior causes it to be approached from two different perspectives: as an explanatory or exogenous variable (agents are invariably opportunistic) (Wathne & Heide, 2000) or as an explained or endogenous variable (opportunistic behavior is a consequence of environmental situations) (Antia et al., 2006). This study will analyze opportunism as an endogenous or explained variable. The opportunistic action that implies that a certain member of the official distribution of a prestige product participates in its parallel distribution by breaching its agreements (Antia et al., 2004; Antia et al., 2006) will be explained by the behavior of the remaining members of the official network. Table 1 shows papers that empirically treat opportunism as an endogenous variable.

Table 1
Papers dealing with opportunism as an endogenous variable

Author(s)	Endogenous variable	Exogenous variables
Antia et al. (2006)	Parallel Market Incidence	Disciplinary measures, price differentiation, prestige, shortage, free-riding, heterogeneity
Das y Rahman (2010)	Business partner opportunism	Economic, relational, and time-related factors
Jap y Anderson (2003)	Ex post opportunism	Idiosyncratic assets, target consistency
Morgan et al. (2016)	Opportunism	Entrepreneurship, market power
Mysen et al. (2011)	Opportunism	Environmental uncertainty, structural linkage
Paswan (2009)	Opportunism	Competitive severity, unfair competitive practices
Sheng et al. (2018)	Opportunism	Institutional factors, government
Wang et al. (2013)	Opportunism	Transaction costs, social capital
Wang y Yang (2013)	Opportunism	Environmental factors, relational factors, organizational system
Xue et al. (2018)	Opportunism	Trust, cooperation
Yang et al. (2017)	Opportunism	Contracts, relational standards

Source: created by the author

Distribution channels present multiple situations with the potential for opportunistic behavior on the part of their actors since channel relationships are often governed by contracts that restrict certain actions (Wathne & Heide, 2000). Thus, distribution agreements prohibit intermediaries from selling in certain geographical areas or to certain customers, called distribution areas, or prohibit distributors from bringing competitors' products in a certain category through exclusive distribution (Coughlan et al., 2006). These types of agreements give rise to defaults that constitute active opportunism (Wathne & Heide, 2000), and there is evidence that these behaviors are quite common in distribution channels (Antia et al., 2006).

The parallel market arises from a breach of agreements within the official distribution of a given product, through the supply of distribution lines, or through channels that do not correspond to or are not within the scope of action of the intermediary carrying out the transaction (Antia et al., 2004; Johnson & Sohi, 2016). Thus, for example, a parallel market originates when an intermediary bounded inside a given geographical area acts in another outside its scope of action (as is the case of the international parallel market or parallel import) (Berman, 2004; Li et al., 2021), or a specialist intermediary assigned to a customer segment performs distribution in one or more other segments (Zhao et al., 2016). Thus, participation in the parallel market by a member of the official network involves an exercise of opportunism by breaching the terms of its agreement (Srivastava & Mateen, 2020), where it shirks its responsibility after obtaining distribution rights in a given area (Cavusgil et al., 2004).

The official distribution channel is a strategic group within the distribution channels that constitutes a voluntary alliance or relationship between its members (manufacturer or brand owner and official distributors) (Antia et al., 2004) in such a way that their behaviors are regulated, both in the short and in the long term through the coordination and contractual or social agreement of its members (Dacin et al., 2007). This strategic association composes a homogeneous group that takes on the identity of a reference group because its components share norms and values (Chung et al., 2011: Siguaw et al., 1998), which guide their behavior as members of the official network (Haas & Park, 2010). In the reference group theory's origins, the influences they can exert on actions and relationships within the distribution channel were already pointed out (Kelley, 1965). The behaviors in the distribution channel based on reference groups have also been addressed in more recent times by works such as Chung et al. (2011) on the market orientation of retail distributors, or Liu et al. (2015), which addresses it as a moderating element of opportunistic behavior.

Reference groups are the result of the institutionalization of the members of a strategic group, which is defined as "the process in which structures, schemes, rules, regulations, and routines establish authoritative guidelines for social behavior, emphasizing how these elements are created, disseminated, adapted, and adopted in space and time" (Hult, 2011, p. 518). This institutionalization process is important for official distribution because it facilitates decision making, communication, joint projects, corporate intelligence, and the security of its members against external aggressions to this network (Trim & Lee, 2006). Moreover, it is a process based on the willingness of its members, and the decisions taken in this area are driven by a social justification that corresponds to the desire of the actors to be accountable for their actions (Dacin et al., 2007).

The objective of the institutionalization of the members of the official distribution is to create similar structures among its components so that behaviors align with the official distribution strategy by adopting a common response to the environment. This is known as isomorphism, defined as "the process that forces a population unit to resemble other units facing the same set of environmental conditions" (DiMaggio and Powell, 1983; p. 149). If this definition of sociological origin is transposed to the official distribution channel environment, it is found that isomorphism results from institutional pressure that forces organizations in the same environment or channel to adopt similar characteristics or forms (Dacin et al., 2007).

The adoption of isomorphism by the strategic group comprising the official distribution targets legitimacy, defined as the generalized perception that actions as a member of the official network are desirable and appropriate within the group's system of social norms, values, and beliefs (Suchman, 1995). Legitimacy, as opposed to concepts such as reputation or institutional prestige, is a broader term that

explains how and why the structure of the company and its activities are configured to conform to social norms and values (Dacin et al., 2007).

Thus, the official network is a set of actors (manufacturer or brand owner and official distributors) that share a common strategy, which gives them the identity of a reference group (Haas & Park, 2010), where rules—whether formal or relational—as well as pressure to institutionalize its members are established (Scott, 2008). As a result of this pressure, and in conjunction with market forces, a common and similar response or behavior is obtained from its members, called isomorphism (Dacin et al., 2007), which the members of the official channel adopt in order to obtain legitimacy from the reference group to which they belong (Hult, 2011; Trim & Lee, 2006).

In these circumstances, an exercise of opportunism through the intervention of some member of the official distribution in the parallel market, led by an official distributor (Antia et al., 2006) or by the manufacturer or brand owner (Cao & Zhang, 2019), implies a response from the remaining members of the network that is expected to be isomorphic (Dacin et al., 2007), imitating these behaviors (Chung et al., 2011), which leads to the following hypotheses:

H1a: The opportunism of an official distributor's active participation in the parallel market is positively influenced by the active participation of other official distributors.

H1b: The opportunism of an official distributor's active participation in the parallel market is positively influenced by the active participation of the manufacturer or brand owner.

A question to be determined is whether these opportunistic actions are unlimited or find a turning point where they decline. In principle, it is too pessimistic to consider that opportunists will be dishonest in all their actions and at all times (John, 1984). Obtaining an official product is only possible through membership in such a network (Antia et al., 2004), and there is evidence that continued opportunistic behavior can lead to the termination of the relationship (Antia et al., 2006). Therefore, the limit for opportunistic behavior of intervention in the parallel market of an official distributor will be set by the risk of being excluded from such distribution.

As for the manufacturer supplier or brand owner that originates the official distribution, its intervention in the parallel market is also susceptible to imitation, which clashes head-on with its role as guarantor of official distribution (Coughlan et al., 2006). The limit to its opportunistic behavior is set by the risk of being imitated without limit by the other members of the reference group (Dacin et al., 2007), which induces it to measure out its interventions in the parallel market to maintain control of the official channel, which is the role it must assume within this group (Antia et al., 2006). With this background, a saturation effect is proposed in the following hypotheses:

H2a: The effect of the opportunism of the active participation of other official distributors on the active participation of the official distributor in the parallel market decreases for higher levels of participation (negative quadratic effect).

H2b: The opportunism effect of the manufacturer's active participation on the official distributor's active participation in the parallel market decreases for higher levels of participation (negative quadratic effect).

The last question that arises is which situation has greater potential to be imitated by the reference group, the opportunism of the participation of an official distributor in the parallel market or this same action by the manufacturer or owner of the brand. The reference group theory states that group members' influences on their business partners are conditioned by the status within the group—by the role assumed by the agent exercising that influence (Hass & Park, 2010). The official distribution channel is constructed by the manufacturer, who carefully selects its intermediaries and assigns them roles (distribution areas) within the official channel (Coughlan et al., 2006). This situation gives the manufacturer greater status and legitimacy within the reference group (Antia et al., 2006; Hass & Park, 2010). This status makes their behaviors more likely to be, first, highlighted and, second, imitated by the other members of the channel. Therefore, the following hypothesis is proposed:

H3: The opportunism of the manufacturer's participation in the parallel market has a greater imitation effect on the active participation of the official distributor in the parallel market than the participation of other official distributors.

Empirical analysis

Methodology

Data were obtained from a sample of Spanish wholesale distributors in the FMCG distribution channel (food, beverages, and cleaning and personal hygiene products) to corroborate the hypotheses proposed. This channel has the potential for its agents to participate in a parallel market to distribute branded or reputational products in an exercise of opportunism by breaching their agreements and obligations with the official network. Contact data were obtained from Spanish publications specialized in the sector (ARAL, INDISA, ALIMARKET). 5 000 emails were sent using the University of Murcia's ENCUESTAS ('SURVEYS') application, obtaining 181 valid responses (response rate 0.036%). The questionnaire was part of an extensive study on the profile of relationships in the FMCG distribution channel, their views on participation in the parallel market (their own and others'), and their disposition to opportunism understood as non-compliance with agreements within the official channel. Notably, the ratio of responses

obtained in questionnaires disseminated by email is much lower than those obtained by personal or telephone interviews.

The data were obtained in two phases: the first phase involved requesting responses to the questionnaire, while the second phase involved requesting responses from those distributors who had not responded. The data were divided into two subsamples according to the response phase (97 items in the first phase and 84 in the second). A t-test for equality of means (Armstrong & Overton, 1977) was performed on both subsamples. The absence of significant differences in means indicated a low probability of non-response bias. Similarly, control variables were introduced in the questionnaire: (1. Product category, 2. Size of the manufacturing company, 3. Scope of distribution, 4. Type of target customer, 5. Size of the distributing company), proving to be absent of significance.

The data were processed with IBM-SPSS and JAMOVI (R-based statistical software).

Reliability and validity of the measurement scales

For the measurement of the endogenous variable, the measurement scale used was the opportunism of the official distributors expressed as the Active Participation in the Parallel Market (PAC), shown in Table 2.

Table 2
PAC scale measurement items

PAC: Active participation of the official distributor in the parallel market Concerning its competitors in the distribution sector...
> In most cases, sourcing on the parallel market is the best choice.
> They buy merchandise of this brand in parallel markets to benefit their customers.
> It is never a mistake to source from the parallel market.
> They sell products on the parallel market because it is a profitable alternative for their company.

Likert-type scale on a range from 1= strongly disagree to 7= strongly agree
Source: Antia et al., 2006; Nunle, 2005

As for the exogenous variables, the opportunism observed for the official distributor through its participation in the parallel market is collected in the scale Participation of Official Distributors in the Parallel Market (PDMP). The same opportunism, in this case observed for the manufacturer or brand owner through its participation in the parallel market, is obtained through the scale Participation of the Manufacturer in the Parallel Market (PFMP) (Table 3).

Table 3
Measurement items of PDMP and PFMP scales

PDMP: Participation of Official Distributors in the Parallel Market	
>	"Official" distributors sell this brand through "unofficial" channels.
PFMP: Participation of the Manufacturer in the Parallel Market	
>	The manufacturer intentionally releases products through the unofficial channel.

Likert-type scale on a range from 1= strongly disagree to 7= strongly agree
Source: Antia et al., 2006

For the measurement of both concepts, single-item scales have been used following the arguments and indications of Rossiter (2002) and Bergkvist and Rossiter (2007), who state that if the object and attribute can be conceptualized as concrete and singular, they do not require multiple items for their measurement. The participation of the official distributor (PDMP) or the manufacturer (PFMP) are concepts with such a singularity that they do not require multiple items for their measurement.

To assess the reliability of PAC, a confirmatory factor analysis (CFA) was performed, and its composite reliability was calculated (Bagozzi & Yi, 1988). The obtained fit (X^2 (gl=2)= 6.76; GFI = 0.98; SRMR = 0.035; CFI = 0.98; NFI = 0.97; IFI = 0.98) can be qualified as acceptable. All items obtained highly significant factor loadings, with a minimum t-value of 7.93 (see Table 4).

Table 4
Confirmatory Factor Analysis (CFA) Results

Item	Standardized value	T-value	Reliability
Active participation of the official distributor (PAC)			SCR=0.77 AVE=0.46
PAC 1	0.61	8.03	
PAC 2	0.81	10.97	
PAC 3	0.60	7.93	
PAC 4	0.67	8.96	

Source: created by the author

The composite reliability (SCR) is above the critical value of 0.60 (Anderson & Gerbing, 1988). The average variance extracted (AVE) does not reach the value of 0.50 for the PAC construct (0.46). Nevertheless, the AVE indicators of the constructs are more discrete. Fornell and Larcker (1981) point out that if AVE indicators are below 0.50, reliability is confirmed if the composite (SCR) offers values above 0.60. Moreover, Cronbach's alpha indicator of this construct shows significance with a value of 0.75 (Hair et al., 1999).

The discriminant validity of the model is confirmed using confidence intervals with ±2 standard errors on the correlation between constructs (phi), verifying that the interval does not include the value of 1 (Anderson & Gerbing, 1988). The calculation is performed using Fisher's transformation. Table 5 shows

the upper limits of the confidence intervals of the correlations (upper diagonal), the descriptive statistics of the variables, and the correlations obtained (lower diagonal).

Table 5
Descriptive statistics, correlations, and upper bounds confidence intervals

Variable	Mean	Standard deviation	1	2	3
1.- PAC	2.262	1.316	1	0.582	0.654
2.- PDMP	3.381	2.148	0.437	1	0.709
3.- PFMP	2.586	1.961	0.526	0.597	1

Source: created by the author

Results

The hypotheses are tested by linear regression using ordinary least squares with the following theoretical model:

$$PAC = b_0 + b_1\, PDMP + b_2\, PFMP + b_3\, PDMP^2 + b_4\, PFMP^2 \quad (1)$$

where PAC is the active participation of the official distributor in the parallel market, PDMP is the participation of other official distributors in the parallel market, and PFMP is the manufacturer's participation in the parallel market.

The independent variables are centered to the mean before constructing these terms to anticipate potential multicollinearity when introducing quadratic terms (Aiken & West, 1991; Mason & Perreault, 1991). As a result of applying this mean-centering procedure, examination of the variance inflation factor (VIF) shows that all values fall below the figure of 3.3, indicating a weak degree of multicollinearity (Hair et al., 1999), with the highest VIF value being 2.513. The absence of multicollinearity indicates the absence of a common method bias (Hair et al., 1999).

The normality test was performed for the variables using the Shapiro-Wilk test. The results obtained in PAC (Shapiro-Wilk W=0.875; $p<0.01$), PDMP (Shapiro-Wilk W=0.859; $p<0.01$), and PFMP (Shapiro-Wilk W=0.775; $p<0.01$) indicate statistical normality of the data.

Table 6 shows the results obtained in the regression adjustment, where the Main Effects Model (without quadratic effects) is compared with the Theoretical Model. The Theoretical Model presents a change in adjusted R^2 of 0.047 and a change in F-value of 7.012 ($p<0.01$). These results confirm that the Theoretical Model is better at explaining the dependent variable.

Table 6
Regression results of the Theoretical Model and Main Effects Model

		MAIN EFFECTS MODEL		THEORETICAL MODEL		
Variables	Coefficients	Standardized coefficients	Significance	Standardized coefficients	Significance	Non-standardized coefficients
Constant	b_0		0.000		0.000	2.771
PDMP	b_1	0.200	0.012	0.214	0.013	0.131
PFMP	b_2	0.411	0.000	0.616	0.000	0.419
$PDMP^2$	b_3			-0.131	0.080	-0.046
$PFMP^2$	b_4			-0.243	0.027	-0.068
R^2 (Adjusted R^2)		0.304 (0.295)			0.358 (0.342)	
F-value (F-probability)		36.617 (0.000)			23.125 (0.002)	
R^2 changes (Adjusted R^2)		0.304 (0.295)			0.054 (0.047)	
F-value change R^2 (F-probability)		36.617 (0.000)			7.012 (0.001)	

Note: Compared to the Main Effects Model, the Theoretical Model has a significantly better R^2 and is therefore preferred.
Source: created by the author

Figure 2 shows the effects on PAC for different values of PDMP and PFMP. The figure shows that both PDMP and PFMP have a decreasing positive effect on PAC. It also shows that the slope is steeper for PFMP.

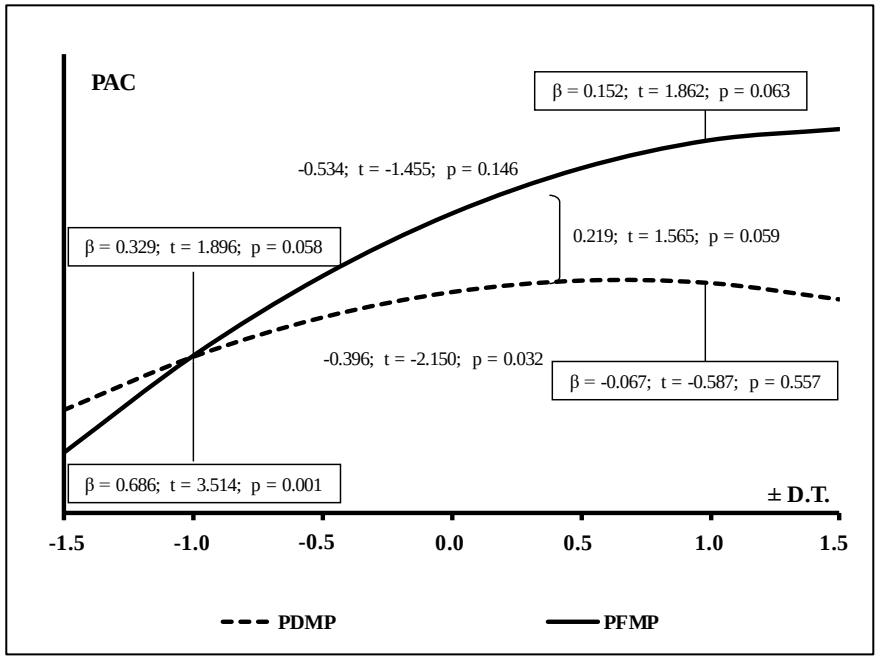

Figure 2. Effect of PDMP and PFMP on PAC for PDMP and PFMP levels.

Regarding the active participation of the official distributor in the parallel market when other official distributors participate in it, the effect would follow the equation below:

$$\partial \text{ PAC} / \partial \text{ PDMP} = b_1 + 2\, b_3 \text{ PDMP} \quad (2)$$

1) For low PDMP values (-1 standard deviation=-2.148), the effect of PDMP on PAC is 0.329; a standard error of 0.173; and a t-value=1.902 ($0.05<p<0.10$).

2) For high PDMP values (+1 standard deviation=+2.148), the effect of PDMP on PAC is -0.067, with a standard error of 0.113 and a t=-0.593 ($p>0.05$).

3) The change in the value of the influence of low PDMP values to high values is -0.396. This change obtains a significance level of $p>0.05$ (t=-1.455).

These results partially confirm hypothesis H1a, that is, only for low values of distributor participation (t=1.902; $0.05<p<0.10$). For its part, although the effect of PDMP on PAC is not significant at high levels of PDMP, the fact that the effect change is not significant does not make it possible to confirm hypothesis H2a on saturation with complete conviction.

The active participation of the official distributor in the parallel market when it is the manufacturer who participates in it varies according to the following relation:

$$\partial \text{ PAC} / \partial \text{ PFMP} = b_2 + 2\, b_4 \text{ PFMP} \quad (3)$$

1) For low PFMP values (-1 standard deviation=-1.961), the effect of PFMP on PAC is 0.686, with a standard error of 0.195 and a t-value=3.518 ($p<0.01$).

2) For high PFMP values (+1 standard deviation=+1.961), the effect of PFMP on PAC is 0.152; a standard error of 0.082; and a t-value=1.854 ($0.05<p<0.10$).

3) The change of the influence value from low PFMP values to high values is -0.534, significant ($t=-2.153$; $p<0.05$).

Therefore, hypothesis H1b is confirmed (both for low and high values of supplier participation), as well as hypothesis H2b, showing a saturation effect for high supplier participation. Notwithstanding, at high levels of PFMP it continues to positively influence PAC, although to a lesser extent.

By studying the size of the effects, it will be established whether the distributor finds a greater motivation to participate in the parallel market (PAC) when it is the manufacturer who participates (PFMP) instead of other distributors (PDMP). For this purpose, the confidence intervals of the effect will be analyzed, establishing that if these intervals do not overlap, it will be understood that there is a significant difference between the effects (Knezevic, 2008). On the contrary, if the intervals overlap, it will be calculated whether the statistic associated with the difference of their mean values is significant: "If two statistics have confidence intervals that do not overlap, they are necessarily very different, but if these confidence intervals overlap, it is not necessarily true that they are not significantly different" (Knezevic, 2008; p. 1).

The one-tailed t-student test will be used for the hypothesis testing due to its suitability when comparing an effect's greater or lesser size (Knezevic, 2008). Following the method described by the author, it was found:

For low levels of participation, the confidence intervals for $p<0.10$ of the unstandardized coefficients are [0.043; 0.614] for PDMP and [0.365; 1.007] for PFMP (Effect ± (1.646 x Standard Error)). As can be seen, these confidence intervals overlap. Therefore, it is necessary to analyze the difference statistics of the effects. The difference between effects is 0.357, and the standard errors, already calculated above, are 0.195 for PFMP and 0.173 for PDMP. This gives a t-value=1.368 ($0.05<p<0.10$ for one-tailed) ($t=(\text{Mean value}_1\text{-Mean value}_2) / (\text{Standard error}_1^2+\text{Standard error}_2^2)^{1/2}$).

Similarly, for high levels of participation, the resulting confidence intervals for $p<0.10$ are [-0.253; 0.120] for PDMP and [0.018; 0.287] for PFMP. The difference between mean effects is 0.219, with

standard errors of 0.082 for PFMP and 0.113 for PDMP, with a t-value=1.565 ($0.05<p<0.10$ for one-tailed).

These results confirm H3 and lead to the conclusion that for both low and high values of participation in the parallel market, the official distributor's participation in the parallel market will be higher when it is the manufacturer who participates in it than when it is other official distributors.

Discussion

Given the results (Table 7), it can be seen that the opportunism involved in the participation of an official distributor in the parallel market is encouraged by the observation that other official distributors have initiated this type of action. This situation makes it evident that the reference group influences the behavior of its members and that they find legitimacy in following its actions.

There is also evidence of a saturation effect in the opportunism displayed by an official distributor who follows the actions of one or more opportunistic distributors in the network. Reaching a high degree of participation makes them question the legitimacy of these actions because the possible sanction for this type of action is to be excluded from the official distribution, becoming an exclusively parallel distributor who would not have a guaranteed supply of product and whose business would depend on the opportunism of other distributors of the official channel.

The empirical analysis shows that the strongest incentive for an official distributor to engage in opportunistic behavior, such as participation in the parallel market, is observing such behavior in the manufacturer or brand owner. Moreover, evidence is found that this incentive is greater than observing the same behavior in other official distributors. For lower levels of participation, small increases in supplier participation result in a situation with greater potential for imitation than in the case where other distributors are the agents to be followed. In line with the saturation effect described above, high levels of participation by the manufacturer, although lower than in the case of official distributors' participation, are still significantly positive.

Table 7
Summary Hypothesis acceptance

Hypothesis	Results
H1a	Confirmed (at low values of the variable)
H1b	Confirmed
H2a	Not confirmed
H2b	Confirmed
H3	Confirmed

Source: created by the author

Conclusions

The results obtained have relevant implications for managing the official distribution channel. The manufacturer or brand owner is faced with opportunistic attitudes of the members of its network that should be monitored and detected. To this end, observing abnormally high movements and demands of their official intermediaries above the evolution of the market where they operate is recommended, indicating participation in the parallel market.

On the other hand, the supplier will have to be cautious with its own movements. It must be borne in mind that manufacturers, apart from the collegiate objectives with their official distribution, have their own sales and profitability objectives. This situation presents agency problems as their decisions may be to supply products to the parallel market to reach or approach their own objectives, excluding their agreements with the official distribution in these actions. The model has shown how this type of activity is a major incentive for the participation of official distributors in the parallel market. Therefore, the manufacturer must be aware that these actions, apart from the short-term benefits they bring, may have the long-term effect of disrupting the order in the official distribution channel.

Limitations and future lines of research

The research study presented here offers a novel insight into the causes and origins of opportunistic behavior by an intermediary in the official distribution channel through its participation in the parallel market: the actions of the remaining members and their potential to be imitated. Nevertheless, a phenomenon like the one described is complex, and decisions within the channel often have many causes. This leads to one of the limitations of this work: the partial analysis of the motivations of an official distributor in its opportunistic behavior. Future lines of research into this phenomenon involve continuing to investigate its causes and providing new contributions to knowledge in this area. It would be interesting to know how the profile of the relationships between the members of the official distribution operates, framing its explanation in one of the great paradigms of the study of the distribution channel, the trust-commitment model described by Morgan and Hunt (1994).

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