Attraction in buyer – supplier relationships: improving supply network performance through purchasing recognition and proficient collaboration initiatives

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ABSTRACT

Purpose – The paper aims to shed light on the dynamics of buyer – supplier industrial relationships and the role of customer attractiveness – a requisite to obtain best efforts from suppliers involved in collaborative initiatives.

Design/methodology/approach – The paper develops a theoretical framework tested through an international survey with a Structured Equation Modelling approach.

Findings – Results confirm that customer attractiveness positively affects both innovation and cost performance ensured by suppliers. Moreover, several direct and indirect antecedents of customer attractiveness are identified, including characteristics of the buying firm's procurement department (i.e., procurement knowledge and procurement status) and supply chain relationship characteristics (i.e., proficiency of supplier collaboration and visibility).

Research limitations/implications – Because of the survey approach, the research results are limited to the data collected.

Practical implications – Findings support the relevance of collaborative relationships in improving performance, and the key role procurement department could play in managing the multifaceted aspects of supplier collaboration.

Originality/value – This article investigates, on the one hand, why customer attractiveness is relevant for supply chain management, and what are the effects on innovation and cost performance ensured by suppliers; on the other hand, antecedents of customer attractiveness are considered, with a main focus on organizational and relational procurement variables.

Keywords: Supply Chain Relationships; Procurement Organization; Customer attractiveness; Collaboration

7. Introduction

Well – designed collaboration relationship with suppliers can offer many opportunities and, during years, literature has reserved great attention exploring factors affecting the success of these collaborations (e.g. Anderson and Narus, 1990; Badaracco, 1991; Jap and Ganesan, 2000; Menguc et al., 2014; Schiele and Vos, 2015; Tanskanen and Aminoff, 2015; Makkonen et al., 2016), with most of these studies mainly investigatigating the role of relational issues (i.e. length of buyer supplier relationship, culture, trust, commitment, satisfaction…Ragatz et al., 1997). The role of these variables has been clearly demonstrated, although something seems missing to a complete understanding of this subject. Recently, the concept of "attraction" starts to be investigated to explain factor of how relationship initiate, endure and develop (Mortensen et al., 2008; Hald et al., 2009; Kumar and Routroy, 2016; Makkonen et al., 2016; Pulles et al., 2016). Attraction is described by Hald et al. (2009), as "*the force fostering voluntarism in purchasing and marketing exchanges, and further pushing a buyer and supplier closer together in a mutual advantageous relationship*" (p. 968). The basic idea behind studies focusing on attractiveness is that high-skilled and innovative suppliers are rare, and so they may not dedicate their resources equally to all customers, thus becoming highly selective; thereby, in order to secure access to the best resources - such as brainpower - customers must increase their level of attractiveness (Schiele et al., 2010; Huttinger et al., 2012; Pulles et al., 2016). Improving the level of attractiveness is also important as buyers need to achieve the status of "preferred customers" for the suppliers: as preferred customer, in fact, they have easier access to several benefits, such as product quality and innovation, better support, delivery reliability, lower price and costs (Ramsay, 2001; Hüttinger et al., 2012; Nollet et al., 2012; Pulles et al., 2016). Although the positive effects of higher attractiveness have been largely debated, a quantitative analysis of its main achievable benefits is missing (Huttinger et al., 2012), especially with a main focus on performance obtained for the categories provided by the supplier – a relevant

unit of analysis in the purchasing and supply management field - rather than at the firm level. Beyond tangible benefits, literature has also focused its attention on how to increase customer attractiveness, through the identification of its main drivers (e.g. Huttinger et al., 2012; Pulles et al., 2016); in this area, most of the study are mainly conceptual or case-study based, whereas there is need of additional empirical research with a theory testing approach.

It's from these premises that this study finds its positioning – with the aim to go more in depth in investigation of the "chain of evidence" leading the buying firm to be an attractive customer. In tackling this goal, besides the typical Supply Chain Management (SCM) perspective, the theoretical background of relationship marketing (RM) is also adopted, as it offers an interesting perspective, by including the social exchange principles to investigate the dynamics of buyer-supplier relationships. Indeed, RM recognizes that some companies are unable to fulfil the market demand with their own resources, therefore attempting to overcome this lack by establishing market – oriented business-to-business relationships (e.g., Dweyer et al. 1987; Baxter, 2012). The basic principles upon which RM is based are mutual value creation, trust, and commitment (Payne et al., 1998; Hingley et al., 2015), following the idea that actions are pushed by the returns people expect to obtain (Blau, 1964).

According to this, the paper investigates, through an international survey, a set of possible antecedents of relationship attractiveness for customers, with a behaviour-based approach (Tanskanen and Aminoff, 2015). As antecedent, both attributes of the buyer - supplier relationship (i.e., the level of proficiency in supplier collaboration and the level ofvisibility) and the characteristics of the procurement department (i.e., knowledge and status) are considered. The former is included because attractiveness is higher if the buyer has the ability to provide assets and capabilities which may simplify supplier's business activities (Makkonen et al., 2016); the latter is instead consistently with large part of SCM literature discussing the strategic role of the procurement department, stating how proficiency in the execution of activities is

higher when the status and the skills of procurement people are high as well (Yeniyurt et al., 2014). Furthermore, in order to determine the effect resulting from a higher customer attractiveness, we include the impact this aspect has on specific purchasing category performance – innovation and efficiency; this perspective is new, as many scholars have investigated the role of customer attractiveness on procurement performance (e.g. Schiele, 2010; Wynstra et al., 2001), but without adopting a category perspective.

The article is organised as follows. Firstly, the concept of customer attractiveness and its relevance for supply chain management is defined and positioned within the literature. Next, an overview of possible antecedents of customer attractiveness is presented. Through this review we are then able to describe our research framework and consequent hypotheses. Next, the research method is presented. The last three sections present data analysis, discuss results, and summarise main conclusions respectively.

2. Literature review

2.1 The concept of attraction in business and supply chain relationship

A general definition of the verb "to attract" is "*to cause interest or pleasure and to pull someone towards you by the qualities you have, especially positive and admirable ones*" (Cambridge Dictionaries Online). As research topic, the first works concerning attraction are related to social psychology and social exchange literature, the latter come to live as an offspring of the first. Social exchange deals with interdependence between social actors and focuses on the rewards and costs that individuals gain through interaction with each other (Homans, 1973; Thibaut and Kelley, 1959), reason for why its application was valued particularly interesting for buyer-supplier relationship research. A social definition of the concept of "attraction" was given by Blau (1964), who describes it as an evaluation of rewards which bring to establish a rapport: "*Actor A is attracted to actor B, if A expects that association with B to be in some way rewarding for A*". This statement highlights how attraction is a force which acts to get closer

two distinctive parts, whether these are individuals, groups or companies, and it underlines how the concept of value is a core element in this construct. Attraction is a fundamental element to start a relation, principally cause of desired payoff, and after the establishment, it acts to continue and strengthen the relation. In short, social exchange suggests that human factors are crucial components of attraction and that attraction plays an important role in value creation, as it influences trust and commitment between parties (Blau, 1964; Kelley and Thibaut, 1978; Thibaut and Kelley, 1959).

Extending this view to a supply chain relationship between a buying firm and its supplier, we might say that both the buyer and the supplier need to see the relationship as attractive to effectively create and transfer value (Hald et al., 2009; Pulles et al., 2016). Attraction can be also thought as an alternative approach to manage relationship based on the creation of voluntary motivation and commitment between partners, which differs from the traditional approach of managing relations by power and control mechanisms (Cox, 1999; Wagner and Bode, 2014). This view is in line with the relationship marketing perspective, according to which non-economic factor, particularly interpersonal ones, contribute to govern relationships, in addition to economic drivers (Schiele et al., 2015; Kim and Choi, 2015). Relationship marketing considers the ability of human interactions to establish relational norms that act as governance mechanism and favour attraction. As a consequence attraction is ultimately able to support long-term relationships and to get the most from the collaborative partner, excluding, or at least limiting, opportunistic behaviour (Ellis et al, 2012).

As explained by this theory, attraction can be linked to other important behavioural concepts as trust, commitment, and value, which have become cornerstones in the purchasing and supply chain management literature. Jean et al. (2014) and Huttinger et al. (2012), for example, argue that attraction is a prerequisite for developing trust and commitment and, as a

matter of fact, the level of buyer-supplier attraction depends on disconfirmed vs. confirmed expectations.

For these reasons, supply chain literature has deeply investigated the concept of attractiveness, especially in decision-making processes. In order to select a counterpart for a specific relationship by considering the impact on choices of the counterpart (external perspective) (e.g., Olsen and Ellram, 1997), attractiveness in front of the counterpart is fundamental. This topic is investigated with both an internal and an external perspective.

Considering the internal perspective, the aim is to influence the other party's perception in order to increase the likelihood to be chosen among different alternatives, with a focus on implementing actions to "look better" (e.g., Bonner and Calantone, 2005; Tanskanen and Aminoff, 2015). The external approach is more common in the purchasing and SCM literature, being defined as a collection of critical factors pushing a company to choose a specific supply chain partner (Pulles et al., 2016; Makkonen et al., 2016). At this regard, the topic has been also investigated by several marketing researchers, as a segmentation criterion for customer portfolio analysis (e.g., Turnbull and Zolkiewski, 1997; Ritter and Andersen, 2014). According to these perspectives, customer attractiveness emerges as depending on the perception of the potential value and duration of a specific relationship.

Considering instead the internal perspective, scholars emphasize the importance for buyers to "sell" their firm to critical suppliers (Krolikowski and Yuan, 2017). As a matter of fact, in the modern business context, for a buying firm it is getting increasingly important to become attractive, in order to secure satisfactory performance from suppliers (Christiansen and Maltz, 2002; Pulles et al., 2016). Recently, many authors point out the relevance of customer attractiveness by arguing that suppliers will not improve processes or product technologies unless attraction is present (Schiele, 2012; Tanskanen and Aminoff, 2015); in particular,

attraction becomes a prerequisite for mobilizing suppliers' resources and developing trust and commitment (Schiele, 2012).

2.2 Empirical studies on customer attractiveness antecedents

The fundamental idea of customer attractiveness is to make the supplier follows the customer's wishes by indirectly influencing the actions of the supplier (Nollet et al., 2012); for this reason, several studies tried to explore its potential antecedents.

Different streams of literature investigate the role of antecedents.

A first stream looks at the role of human factors to establish and maintain a business relationship (e.g. Ellegaard et al., 2003). This perception is consistent with social behavioural concepts and supports the idea that the success in influencing suppliers by being attractive is expected to depend on supplier actors' perceptions. In this vein, some authors have proposed feeling and emotions as antecedents to be used in the purchasing domain to increase the understanding of buyer-supplier relationships (e.g. Jain et al., 2014), with relational matters included both as antecedents and consequences of attractiveness.

A second stream focuses on the relational embeddedness of buyer – supplier relationships and the effects of preferential buyer treatment (Blonska et al., 2008). Buyer's investments to develop a supplier and some relational mediators - trust, commitment, and dependency - positively influence supplier's preferential judgment toward the buying firm. As a consequence, suppliers will more likely exploit buyer's relational investments according to buyer's expectation and excluding opportunistic behaviour. In this vein, Schiele et al. (2011) investigates the antecedents of supplier innovativeness and supplier pricing and explain how the preferred customer status positively influences supplier innovativeness and leads to a more benevolent pricing policy by the supplier. Beyond supplier's innovative capabilities and specialization, specific characteristics of the dyadic relationship, such as supplier development programs, have a positive effect on the supplier's contribution to the buying firm's innovation.

The examples addressed that characteristics of the buyer-supplier relationship are as much important as the supplier's technical skills in explaining supplier innovativeness.

A last stream of literature focuses just on supply relationship characteristics (e.g. Hald et al., 2009), with efforts dedicated to transfer knowledge to a supplier (i.e. supplier development programs), sharing of critical information and the integration of the partner in production and logistic processes, being some of the constructs considered. In addition, procurement department characteristics are suggested to be included in the discussion about customer attractiveness antecedents, as they certainly affect the way the supply relationship is managed (Yeniyurt et al., 2014). As some authors suggest, procurement organizational configuration, recognition among others departments, tools implemented, and procurement people skills are strictly related to a successful management of supply relationship (Schiele et al., 2013; Bemelmans et al., 2015; Tanskanen and Aminoff, 2015).

2.3 Impact of customer attractiveness on performance

A lot of the literature about customer attractiveness focuses on the value that this attribute could bring in terms of tangible benefits and performance. Huttinger et al. (2012) make a comprehensive literature review on the topic, discussing about the consequences of being perceived as an attractive customer, and its importance in a supply chain context - a customer perceived by a supplier as attractive receives a better resource allocation and a stronger level of commitment which, in the end, are able to improve relational performances. Generally speaking, most of the discussion about customer attractiveness is shaped around the benefit of expected value coming from the relationship (Hald et al., 2009). Ramsay and Wagner (2009), for example, explicitly state that a supplier should devote higher attention to a customer only if the potential value to be extracted from the relationship is higher than the investment necessary to enter the relationship. The concept of "value" has been analysed under different lenses.

Some authors have mainly investigated the economic perspective and the economic benefits arising for the parties, defined as "*social reward-cost outcomes from the relationship over time*" (Halinen, 2012; La Rocca et al., 2012); example of these are growth of purchasing volumes (e.g., Bew, 2007; Steinle and Schiele, 2008), growth of the profitability (e.g., Bew, 2007), development of additional business opportunities (e.g., Brokaw and Davisson, 1978), and reduction of the overall costs (e.g., Moody, 1992).

Other authors have looked at more "qualitative" aspects, such as the impact in terms of quality of the relations (Huttinger et al., 2012). Through attractiveness, parties have interest in engaging into a new relationship or intensifying existing ones (Blau, 1964). In this view, Makkonen et al. (2016) design the "virtuous circle of a relationship", where high customer attractiveness is brings to a higher level of relationship development, thereby increasing its overall quality on a long-term perspective.

There are also scholars (e.g., Huttinger et al., 2012) highlighting the lack of studies about benefits that customer attractiveness could bring to supply chain actors, but the study suggested a potential impact on innovation, production allocation, price benefits and risk reduction.

Finally, some scholars linked customer attractiveness benefits to the more general literature about supply chain collaboration benefits (e.g., Makkonen et al., 2016); presenting attractiveness as a way to engage suppliers into closer collaborations (Mortesen et al., 2008), the final effects can be found in a positive potential impact on innovation, production allocation, price benefits and risk reduction coming from the suppliers (Bernandes and Zsidisin, 2008; Nyaga et al., 2010).

3. **Research framework and hypotheses**

The different research streams previously discussed were useful to 1) identify a wide set of potential antecedents for customer attractiveness, both at procurement department and supply relationship level; 2) focus the attention on the main impact customer attractiveness can have on performance; 3) define a reliable concept of customer attractiveness in industrial relationships.

So, according to this theoretical background, we were able to build a research model to be explored, as shown in
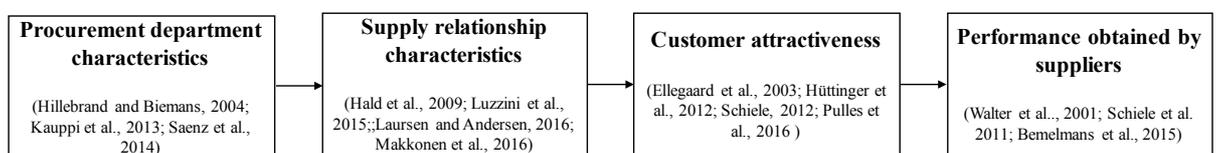
Procurement department characteristics	Supply relationship characteristics	Customer attractiveness	Performance obtained by suppliers
(Hillebrand and Biemans, 2004; Kauppi et al., 2013; Saenz et al., 2014)	(Hald et al., 2009; Luzzini et al., 2015;;Laursen and Andersen, 2016; Makkonen et al., 2016)	(Ellegaard et al., 2003; Hüttinger et al., 2012; Schiele, 2012; Pulles et al., 2016)	(Walter et al.., 2001; Schiele et al. 2011; Bemelmans et al., 2015)

Figure 1.

---FIGURE 1---

3.1 Effects of procurement department characteristics on the level of proficiency on supplier collaboration

Consistently with literature streams about the role of procurement organizational configuration and recognition among others departments to successful management of relationship (Bemelmans et al., 2015; Tanskanen and Aminoff, 2015), two main antecedents related to procurement department are considered.

Firstly, according to the concept of absorptive capacity (Cohen and Levinthal, 1990), a well-formed intra-unit communication network and a good communication climate and culture lead to improve employees' ability to learn and consequently to an effective implementation of new ideas. In addition, an internal "climate of openness" (Nevis et al., 1995) is one of the most important factors facilitating organizational learning (Saenz et al., 2014), fostering the growth

of an adequate level of employees' knowledge and skills which, in turn, contribute to empower a department within the organization (e.g. Rothstein, 1995). Especially important is the development of technical competence of procurement professionals in order to get the most from interactions with technical personnel in team decision-making processes and increase purchasing recognition from others functions (Kauppi et al., 2013); this aspect, together with the ability to access critical information and share information with other department, represent a determinant of procurement status and recognition within the organization (Pearson et al., 1996; Hesping and Schiele, 2015)

Based on these considerations, hypothesis 1 is formulated as follows:

H1. A higher procurement knowledge positively influences procurement status

Secondly, authors have discussed the relevance of procurement status for a strategic recognition. Burt and Soukup (1985) discuss the link between purchasing recognition and responsibilities assigned for NPD activities, while Hillebrand and Biemans (2004), Tracey (2004) and Thomas (2013) conclude that suppliers are more likely to collaborate and to be involved at early stages of NPD when procurement contributions are recognized by the top managers. Similarly, Schiele (2010) links the possibility to involve supplier and procurement in proficient collaboration programs (such as early supplier involvement, supplier development and supplier integration), addressing that how companies organize their purchasing process influence the proficiency of collaborations between suppliers and customers. Based on these considerations, hypothesis 2 is formulated as follows:

H2. A higher procurement status positively influences the level of proficiency on supplier collaboration

3.2 Effects of supply relationships characteristics on relationship attractiveness

Consistently with RM and SCM literature insights, companies are more likely to be attracted by companies willing to involve supply chain partners in strategic decisions.

On the one hand, relational specific investments reflect a commitment and long term orientation (Shiele and Vos, 2015). In particular, we expect that the more customers invest in the relationship the more customer attractiveness will increase (Hald et al., 2009; Schiele, 2012). In this vein, Vollman and Cordon (2002) also argue that "*what makes customer attractive to a supplier – over the long run – is learning*". According to this perspective, the proficiency of implementing supplier development programs and/or its integration in order fulfilment and/or supplier involvement in new product development (NPD) represent opportunities for a supplier to increase its own knowledge (Nagati and Rebolledo, 2013), thus making the relationship with a customer "more attractive". The concept of "relationship attractiveness" can be definitely considered as a good proxy of "customer attractiveness", being this one strictly linked to concrete and fact-based values (Ellegard et al., 2003).

Based on these considerations, hypotheses 3 is formulated:

H3. A higher level of proficiency on supplier collaboration positively influences

supplier's perception of relationship (customer) attractiveness

On the other hand, visibility plays an important role in successful supply chain relationship (Wilson, 1995; Baxter, 2012). The relationship between visibility, trust and attraction in supply chain relationships emerges as a closed loop in the literature; on the one hand, attraction might potentially generate trust and commitment (Dwyer et al., 1987; Ellegaard, 2012), while on the other hand, trust and visibility are fundamental conditions to increase attraction (Hald et al., 2009). In short, the level of visibility (i.e., sharing of meaningful supply chain data, such as inventory level or forecasts) positively influences the value of the

relationship perceived by the supplier (Walter and Ritter, 2003; Jain et al., 2014), which is a major driver of attraction (Hald et al., 2009; Pulles et al., 2016).

Based on these consideration, hypothesis 4 is formulated as follows:

H4. A higher level of visibility positively influences supplier's perception of relationship (customer) attractiveness

3.3 Effects of relationship attractiveness on category performance

The benefits of relationship attractiveness on several performances is discussed in literature (e.g., Nollet et al., 2012; Bengtsson et al., 2013); a relationship is more attractive if either technological collaborations or operational collaborations are in place between the supplier and the customer. First, the pursuit of being an attractive customer is expected to lead suppliers to improve processes and technologies which can be exploited according to customer's wishes (Johnsen, 2009; Ellegaard, 2012). Second, relationship attractiveness has a positive effect on the innovation contribution of the supplier in a buyer-supplier relationship (Schiele et al., 2011; Luzzini et al., 2015). However, we also assume that a stronger innovation effort is not compromising cost performance ensured by suppliers. Indeed, the attracted supplier will reserve a more benevolent pricing method and will constantly be interested in aligning its own wishes with buyer's ones (Christiansen and Maltz, 2000; Schiele et al., 2011; Bemelmans et al., 2015). This perspective is consistent with the diffused idea that attractiveness is pursued first to give economic benefits for the parties (La Rocca et al., 2012), but also with RM, which addresses the importance of interpersonal factors beyond economic drivers to improve performance (Schiele et al., 2015; Kim and Choi, 2015).

Based on these considerations, hypotheses 5 and 6 are formulated as follows:

H5. A higher level of relationship (customer) attractiveness positively influences the category innovation performance

H6. A higher level of relationship (customer) attractiveness positively influences the category cost performance

The overall research framework is reported in Figure 2.

---FIGURE 2---

4. Methodology

4.1 Sample

To investigate our research questions, we use the data collected by the International Purchasing Survey (IPS) (Knoppen et al., 2015); using purchasing categories as unit of analysis, the survey aims to investigate how companies define their procurement strategies, what their procurement skills and capabilities are, how the procurement activities are conducted and what effect the procurement activities exert on procurement and firm performance.

Data were collected in 2010-2011 in their different countries through a multi-language web platform; the survey was originally designed in English and subsequently translated according to a standard procedure (TRAPD, Harkness et al., 2010). Before administering the survey, the questionnaire was tested in several countries with procurement professionals to check the clarity of the questions. The respondents consisted of highly qualified procurement professionals who had played important roles in the procurement functions of their firms. These individuals were selected by collaborating with the procurement professionals' national associations, which had provided the lists of their members who had been personally contacted by the local research group. After the data collection process, each country cleaned its own data in accordance with a common agreement to build a shared international database. After data

collection, each year (until 2013), follow up communication were sent from each country to companies who participated, in order to assure content of the questionnaire was still up to date.

The total sample contains 681 companies from 10 countries. However, only a subset of them provided sufficient information to test the hypotheses stated above, as we were forced to exclude firms not performing at all supplier collaboration (i.e. supplier involvement into NPD, supplier integration, and supplier development), necessary to test the model. As a result, the sample considered includes 524 firms (*Table 1*) from 10 countries and mostly from the manufacturing sector. The targeted companies vary in size and are mostly from the manufacturing sector, although other industries are represented as well. Non-respondent bias was tested for by identifying the differences between the first wave of respondents, and the later waves (the ANOVA shows no significant differences in terms of company size and sectors distribution). The average response rate was 10%.

---TABLE 1---

4.2 Measure

The seven constructs included in our model are described in *Table 2*, in light of extant literature.

More specifically, for what concerns identification and selection of antecedents, we followed the approach suggested by Tanskanen and Aminoff (2015), considering both resource-based antecedents with a main focus on procurement (i.e. management and competences) and behaviour-based antecedents with a main focus on relational choices. For the former approach, we included "*Procurement status*" and "*Procurement knowledge*"; for the latter, the level of "*Proficiency of supplier collaboration*" (i.e. ability to implement effectively collaboration initiatives with suppliers) and the level of "*Visibility*" between supply chain actors.

About the measure of customer attractiveness, we adopted a business-related approach, consistently with Ellegard et al. (2003), considering attractiveness as linked to concrete and

fact-based values. In particular, in the context of industrial relationships, intensity of linkage between supply chain actors is hardly driven by how the relationship is perceived as strategic (Park et al., 2010); for this reason, we approximate the concept of "customer attractiveness" with that of "*Relationship attractiveness*", thus including items measuring how much the buyer has invested in the relationship with the supplier e.g. by implementing different levels of collaboration (technological and operational; Ragatz et al., 1997). The idea is that, the more the customer tends to build collaborative relationships within the supply network, the more it will be perceived as a strategic – oriented company, thus increasing is attractiveness (Nyaga et al., 2010).

Finally, '*Cost performance*' and '*Innovation performance*' reflect the traditional dimension to measure purchasing efficiency (i.e. internal and external) and supplier contribution to innovation (i.e. product/service innovation and variety) at the category level; both measurement follow conceptualization proposed in the past (e.g. Schiele et al., 2011; Luzzini et al., 2015).

---TABLE 2---

According to these definitions, we try to operationalize them through several items derived from the literature, that needed to be adapted to the survey's questions. In order to do that, we run an Exploratory Factor Analysis, with indictors on factors loading and Cronbach Alpha detailed in *Table 3*.

---TABLE 3---

As previously explained, for the purpose of our analysis, we relate the concept of "customer attractiveness" - intended as "the customer's characteristics which lead supplier's effort to establish and develop a relationship with a buying firm" (Pulles et al., 2016) - to the relationship collaboration choices made by the customer, thus assessing the construct through "*the extent to which the buying firm involves supplier earlier when developing new products*"; "*the extent to*

which the buying firm implements supplier development programs within the supply network";
"*the extent to which the buying firm integrates suppliers in production and order fulfilment activities*".

5. Data analysis

In order to analyse data and test the model, we first performed some tests to assess common method bias. Given that we relied on a single respondent design, we controlled for common method bias in two ways: through the procedure of the study and through statistical control (MacKenzie and Podsakoff et al., 2012). Regarding the survey, the research project was labelled as a comprehensive overview of procurement strategies and practices, therefore no explicit reference to customer attractiveness or its effect on innovation performance was evident. Thus, respondents' attention was not drawn to the relationships being targeted in this study. Moreover, questions were organized in an order that separated category characteristics from strategies and practices as well as from performance to prevent respondents from developing their own theories about possible cause-effect relationships. Furthermore, the questionnaire was carefully created and pretested and respondents were assured of strict confidentiality. As a second mean to ensure against common method bias, we performed the common latent factor technique (MacKenzie and Podsakoff et al., 2012); with this analysis, we found that the common latent variable has a linear estimate of .5728. This value, when squared, indicates a variance of .328 which is below the threshold of .50. Overall, this ensures data analysis is not excessively affected by common method bias.

The presented hypotheses were tested using Covariance-based Structural Equation modelling (CB-SEM), which is a common method employed for this type of research, together with Partial Least Square Structural Equation modelling (PLS-SEM; e.g. Perols et al., 2013). As objective of our research is theory testing and confirmation, we decide to adopt CB-SEM, being

PLS-SEM more suitable when the research objective is prediction and theory development (Hair et al., 2011).

The model was tested using the maximum likelihood (ML) estimation method (Hair et al. 2011), as ML compared to other methods (like Generalized Least Squares and Weighted Least Squares) is able to provide more realistic indexes of overall fit and less biased parameter values for paths that overlap with the true model (Olsson et al., 2000). ML estimation assumes that the variables in the model are (conditionally) multivariate normal, which is true for our dataset according to the Doornik – Hansen test (χ^2 =1667.317; p > χ^2 = 0.000).

The hypothesized model was tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is was consistent with the data. As long as the goodness-of-fit is adequate, the model argues for the plausibility of postulated relations among variables. The research model is analysed and interpreted sequentially in two stages: first the assessment of the reliability and validity of the measurement model and secondly the assessment of the structural model (Anderson and Gerbing, 1988). Stata 14.0 was used to estimate both the measurement model and the structural model. The ML algorithm was used to obtain the paths, the loadings, the weights and the quality criteria.

---TABLE 4---

6. Results

6.1 Measurement model

Table 5 shows the results of confirmatory factor analysis (CFA). All of the model fit indicators were found to be satisfactory (χ^2=176.649; χ^2/d.f.=1.344; CFI=.989; TLI=.985; RMSEA=.026; CD=.998). The factors reliability, as measured by the Cronbach's alpha and Composite Reliability (CR, Fornell and Larcker, 1981) was fully satisfactory (Nunnally, 1994). Additionally, convergent validity was assessed through significant loadings from all scale items

on the hypothesized constructs, and through the Average Variance Extracted (AVE, Anderson and Gerbing 1988): AVE ranges between 47% and 69%. As an additional test for discriminant validity, we compared the squared correlation (*Table 6*) between two latent constructs to their AVE estimates (Fornell and Larcker, 1981). According to this test, the AVE for each construct should be higher than the squared correlation between each pair of constructs. This condition is valid for all the constructs.

---TABLE 5---

6.2 Structural model

The postulated path model produced a sufficient fit to the data (χ^2=314.965.; χ^2/d.f.=2.151; RMSEA=.045; CFI=.961; TLI=.951; SRMR=.840; CD=.987). *Table 6* and *Figure 3* shows the results of the hypotheses testing. All the standardized effects are positive and highly significant.

Also, others approach to test the data were used (i.e. PLS), but using the AIC and BIC criterion, the CB – SEM using the ML estimation reveals to be the best (AIC: 28.443; BIC: 28.711).

---TABLE 6---

---FIGURE 3---

7. Discussion

After our testing, all the formulated hypotheses have been confirmed.

As a main result, we are able to demonstrate that relationship attractiveness positively affects the customer performance related to a given procurement category, in terms of both innovation and cost. This results, despite not new per se (the claim that supplier collaboration has a positive impact on purchasing performance is discussed since long, e.g. Corsten and Felde, 2005; Vereecke and Muylle, 2006), becomes interesting in the context of our discussion, as it links the importance to identify ways to become more attractive as customer (which is a typical

marketing activity; Hesping and Schiele, 2015) to the effects that this analysis may have on performance at specific functional level (purchasing, in this case).

On one side, we are saying that, when looking at customer attractiveness, companies must look also at supply chain aspects – like the way they shape collaborations with other supply chain actors and the orientation they include in supplier relationship management – besides the more "marketing" and "economic" aspects usually associated to this characteristics (e.g. brand and reputation, market success, economic and financial performance). On the other, this result is relevant because it reports empirical testing of how customer attractiveness might provide benefits for companies, demonstrating that, being an attractive customer by building collaborative and strategic relationships gives company the possibility to attract best – in – class suppliers, which, in turn, translated in benefits both in terms of innovation outcome from the supplier and cost level (e.g. Brush, 2014; Kim and Choi, 2015). We can therefore conclude that customer attractiveness seems to produce win-win outcomes for the dyad, as the supply network can benefit from long – term and strategic relationships, which are assurance of stability and able to generate more commitment, while the buying firm, through this investment, is able to leverage on its suppliers' technological skills (in order to innovate), without neglecting procurement prices or being afraid of non-benevolent pricing policies in the long run (Baxter, 2012). This also adds some more insights about the debated supply chain cost – innovation trade – off: investing toward collaborative supply networks make the company relationship approach more attractive, with the results of being able to obtain not just the supplier ability to launch new/better products and services on the market, but also to make their production process more efficient (therefore avoiding the diffused trend of increasing costs for new products; Carr and Person, 2002; Lawson et al., 2015).

Besides this main result, we were able to determine two direct antecedents of customer attractiveness, related to the way the buyer-supplier relation is managed: 1) the level of

proficiency in managing supplier collaboration; 2) the level of visibility with the suppliers; despite the "relational" definition of customer attractiveness proposed in this study, this result is aligned with previous ones focused on the drivers of industrial relationships (e.g. Huttinger et al., 2012; Wong et al., 2013), as all considered (directly or indirectly) the ability to manage relationships and the ability to establish a trustful environment between the parts as powerful tools for improving the customer attractiveness of the focal company. On one side, the role of visibility is quite consolidated in supply chain literature, and our results confirm what has been debated since long: the higher the level of visibility between supplier and customer, the more the customer appears as a trustful partner at the eyes of the supplier, thus being likely to become attractive (Caridi et al., 2013; 2014). This finding also support industrial marketing studies, linking attractiveness to the level of openness and trust demonstrated by the actors involved (Tanskanen and Aminoff, 2015).

More discussion is needed on the other antecedent, as the proficiency in managing collaborative relationships involves both the way procurement activities are executed, as well as the strategic orientation of the department. Past and recent literature is rich in presenting the value of collaboration between buyer and supplier at different levels (e.g. Handfield et al., 2007; Yan and Nair, 2015; Luzzini et al., 2015), but also in promoting the need of a "learning curve" of collaboration initiatives, in order to obtain the maximum value (Zacharia et al., 2010; Yan and Dooley, 2014).

The identification of this antecedent is a value because, as a consequence, companies might better understand which actions should be put in place in create prerequisites for customer attractiveness. At this regard, two further variables are identified as relevant – which both relate to the organization of procurement department. As a matter of fact, we are able to show that with the increase of procurement people skills and capabilities, the status of the procurement department within the firm (i.e. the formal recognition by other departments) is likely to

increase as well (Luzzini and Ronchi; 2016); this, in turn, increase the confidence in implementing more strategic (but also complex) relationship with suppliers (Mortensen and Arlbjørn, 2012). This means that, with procurement being the primary interface with the supply network, its formal recognition in the firm's organisation chart might pave the way to increase collaborative initiatives within the supply network. This represents a key point for companies, that are used to neglect the pivotal role of procurement for company success, and also for the achievement of better supply chain performance. This finding shed also some new light on the literature about organizational choices in procurement and company performance, by illustrating a new important benefit achieved through the adoption of a strategic procurement department - the increase in the level of attractiveness (Zheng et al., 2007). Finally, identification of procurement department characteristics as indirect antecedents to customer attractiveness is a new contribution to literature, relevant also to enlarge existing debate at boundaries between purchasing and organization (Adobor and McMullen, 2014).

8. Conclusions

This paper aims to investigate the impact of customer attractiveness on performance (innovation and cost) and assess the impact of antecedents on customer attractiveness. The main results identified are the following:

1. Customer attractiveness – interpreted as "relationship attractiveness" - is promoted as a key element to foster industrial relationships, and obtain better performance (cost and innovation) from the supply network.

2. Two important antecedents of customer attractiveness are identified: the level of proficiency in managing collaborative relationships, and the level of visibility set within the buyer – supplier relationship.

3. Procurement organizational issues are relevant variables to be considered to enhance customer attractiveness, as both procurement status and procurement people knowledge determines the ability of the buying company to implement (and successfully manage) collaborative relationships.

8.2 Contribution for research

From a theoretical perspective, this work interprets the construct of customer attractiveness on a different perspective from the past (using the concept of "relationship" attractiveness), but still promoting attractiveness as a key variable to manage buyer-supplier relationship, in line with past studies (e.g. Schiele et al., 2011; La Rocca et al., 2012). This indirect approach has the disadvantage to not directly assess suppliers' perception by explicitly asking about the level of customer attractiveness, but has the advantage to avoid social desirability biases that might come in place when asking buyers and suppliers about the quality of their relationship. The final results is a "untraditional" measurement of the level of customer attractiveness, but also unbiased and fair (as not being evident to the respondent). Furthermore, we were also able to show that customer attractiveness is not only related to innovation performance but also positively affects costs offered by suppliers to buyers (Hartley et al., 1997), and these benefits are achieved at the procurement category level. This result is quite new, as most of previous studies mainly focus on company performance - with a strong attention to economic than operational results (e.g. Pulles et al., 2016). A third contribution of the study is the identification of main antecedents of customer attractiveness, both direct and indirect. The study proposes direct antecedents related to the characteristic of the supply relationship the buying firm put in place, whereas indirect antecedents reflect procurement department characteristics. This is a key contribution for research, as it extend past research on the topic, mainly focused on "soft"

aspects and/or marketing choices (e.g. Huttinger et al., 2012), without considering indirect impacts or providing a path to the achievement of customer attractiveness.

8.3 Contribution for practice and further development

Study results are also relevant from a managerial perspective. These findings tell procurement managers that one of the key supplier management decision variable – configuration of the nature of the relationship – is a key driver of company attractiveness. This means that managers should push for investing in collaborative and long – term collaboration, if they want to conquer the attention of potential valuable supply chain partners; for this investment, they will be repaid with higher innovation outcome and cost improvements resulting from the buyer – supplier relationship. However, this lever should be activated only if certain pre-conditions exists – the experience in managing collaborative relationship and the willingness to share information within the supply chain. When these factors are not present, pushing collaborative initiatives can result in a failure project, and even reducing the overall customer attractiveness.

In this, managers should also consider that knowledge and competences of procurement people are key variables to increase the procurement status, which have an impact on customer attractiveness as well. The perceived and real importance of a procurement department is higher when procurement managers have an in depth knowledge in taking business decisions, managing new technologies, and dealing with human issues.

Further research could be identified as well. Investigation on either specific industry or specific countries could be performed, to address whether significant differences would appear in different areas of investigation. This can be definitely something that must be explored in a future study on the subject, through a qualitative data collection approach (e.g. case studies), to complement the reliability of research findings. Finally, further research is also necessary to

deepen the relationship between buyers' performance and customer attractiveness: the current model includes only innovation performance and cost performance, but further dimensions can be considered as well (e.g. flexibility and process quality).

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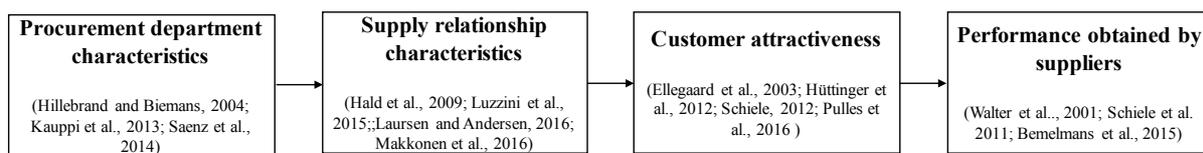
Figure 1. Research model

Figure 2. Research framework
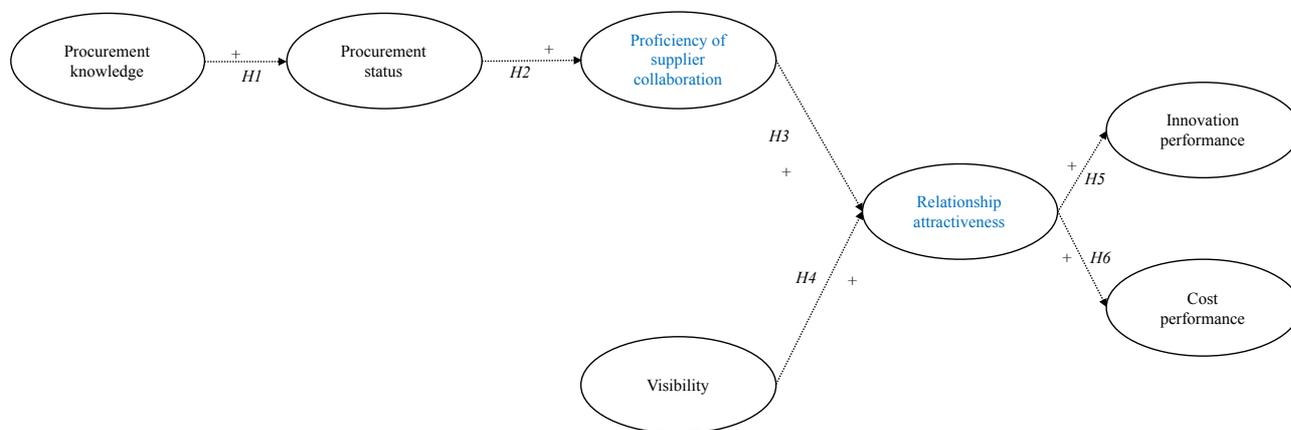
Table 1. Sample descriptives

Descriptive	Frequency	Percentage
Country		
Italy	46	8.8%
Netherlands	39	7.4%
United Kingdom	66	12.6%
Germany	48	9.2%
Spain	44	8.4%
Sweden	115	21.9%
Finland	30	5.7%
United States	59	11.3%
Canada	43	8.2%
France	34	6.5%
Sales (mln €)		
< 50	91	17.4%
< 100	60	11.5%

< 200	56	10.7%
< 500	92	17.6%
< 1000	65	12.4%
>= 1000	120	22.9%
Missing	40	7.6%
Sector		
Manufacturing	343	65.5%
Transportation, storage and communication	29	5.5%
Wholesale and retail trade	28	5.3%
Other	26	5.0%
Construction	23	4.4%
Electricity, gas, and water supply	13	2.5%
Professional and administrative services	13	2.5%
Human health and social work activities	10	1.9%
Financial services	9	1.7%
Public administration and defense	8	1.5%
Agriculture, forestry, fishing, and mining	7	1.3%
Hotels and restaurants	5	1.0%
Arts, entertainment and recreation	4	0.8%
Missing	6	1.1%
Respondent position		
CPO, VP of procurement	70	13.4%
Procurement director	115	21.9%
Procurement manager	238	45.4%
Senior, Project buyer	44	8.4%
Buyer, Procurement agent	28	5.3%
Other	28	5.3%
Missing	1	0.2%
Total	**524**	**100%**

Table 2. Measures

First-order construct	Description	References
Procurement knowledge	The procurement managers' technical and managerial knowledge	Carter and Narasimhan (1996); Tu et al. (2006); Zheng et al. (2007); Bals et al. (2009)
Procurement status	The actual and formal recognition of the procurement department strategic role within the buying firm	Pearson et al. (1996); Carr and Smeltzer (1997); Mol (2003); Cousins et al. (2006); González-Benito (2010)
Proficiency in supplier collaboration	The experience of the buying company in managing collaborative relationships with suppliers	Sheu et al. (2006); Oh and Ree (2008); Melander and Lakemond (2015)
Visibility	A willingness to rely on a supply chain partner in whom one has confidence, by sharing strategic information	Francis (2008); Hald et al. (2009)
Relationship attractiveness	The extent to which the customers make suppliers participate to critical collaboration projects, such as new product development, supplier development and supplier integration in the operations processes	Ragatz et al. (1997); Narasimhan and Das (2001); Yan and Dooley (2015); Lawason et al. (2015)

Innovation performance	The extent to which the customer get innovation from suppliers of the given category	Lagacé (2003); Luzzini et al. (2015)
Cost performance	The extent to which the customers get cost reduction performance from suppliers of the given category	Hartley et al. (1997); Hartmann et al. (2012)

Table 3. Factor analysis

	Procurement status	Procurement knowledge	Proficiency of supplier collaboration	Visibility	Customer attractiveness	Category Cost performance	Category Innovation performance
Top management is supportive of efforts to improve the procurement department	.742						
Procurement' s views are considered important by most top managers	.829						
Procurement is recognized as an equal partner with other functions of the top management team	.827						
The knowledge of procurement manager(s) when making business decisions		.800					
The knowledge of procurement manager(s) when dealing with new technologies		.737					
The knowledge of procurement manager(s) when managing daily operations		.725					
The knowledge of procurement manager(s) when dealing with human issues		.754					
Proficiency of supplier development			.806				
Proficiency of supplier involvement into NPD			.907				
Proficiency of supplier integration in order fulfillment			.795				
Share inventory level knowledge with suppliers				.773			
Share production planning and/or demand forecast information with suppliers				.725			
Intensity of technological collaboration (supplier involvement in NPD)					.777		
Intensity of operational collaboration (supplier integration)					.717		
Intensity of supplier development					.745		

The procurement price						.733	
The cost of managing the procurement process						.614	
The supplier time-to-market for new or improved product/services							.727
The level of innovation in products/service from suppliers							.646
Cronbach alpha	**.802**	**.816**	**.871**	**.692**	**.764**	**.688**	**.662**
Total variance explained = 69.738%							
Extraction Method: Principal Component Analysis, 5 factors imposed, Cases excluded pairwise. Rotation Method: Varimax with Kaiser Normalization. Factor loadings under .45 are not shown.							

Table 4. Resulting measurement model

First-order construct	Indicators	Loading	CR	AVE
Procurement status	Top management is supportive of efforts to improve the procurement department	.734	.850	.656
	Procurement's views are considered important by most top managers	.884		
	Procurement is recognized as an equal partner with other functions of the top management team	.805		
Procurement knowledge	The knowledge of procurement manager(s) when making business decisions	.880	.900	.695
	The knowledge of procurement manager(s) when dealing with new technologies	.832		
	The knowledge of procurement manager(s) when managing daily operations	.823		
	The knowledge of procurement manager(s) when dealing with human issues	.797		
Proficiency of supplier collaboration	Proficiency of supplier development	.809	.870	.692
	Proficiency of supplier involvement into NPD	.897		
	Proficiency of supplier integration in order fulfillment	.784		
Visibility	Share inventory level knowledge with suppliers	.811	.798	0.634
	Share production planning and/or demand forecast information with suppliers	.818		
Relationship attractiveness	Intensity of technological collaboration (supplier involvement in NPD)	.760	.781	.544
	Intensity of operational collaboration (supplier integration)	.705		

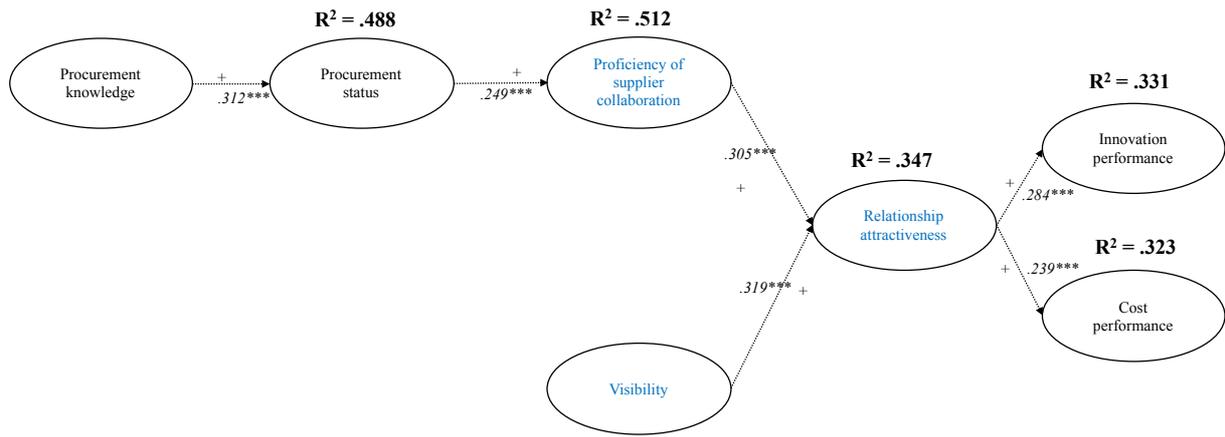| | Intensity of supplier development | .745 | | |
Category cost performance	The procurement price	.648	.640	.471
	The cost of managing the procurement process	.723		
Category innovation performance	The supplier time-to-market for new or improved product/services	.707	.654	0.489
	The level of innovation in products/service from suppliers	.687		

Table 5. Correlation matrix

Variables	1	2	3	4	5	6	7
1. Procurement knowledge	1						
2. Procurement status	.124*	1					
3. Proficiency of supplier collaboration	.106**	.049**	1				
4. Visibility	.002	.008	-.163	1			
5. Relationship attractiveness	.067*	.0225*	.043	.106**	1		
6. Innovation performance	.001	.004	-.062	-.037	.025*	1	
7. Cost performance	.001	.013*	-.043	-.068	.046**	.032*	1

Table 6. Parameters estimate

Parameter estimates		Std error	Z	95% confidence interval	
Procurement knowledge → Procurement status	.312***	.045	6.93	.224	.400
Procurement status → Proficiency of collaboration	.249***	.047	5.26	.156	.342
Proficiency of collaboration → Relationship attractiveness	.305***	.053	6.00	.205	.404
Visibility → Relationship attractiveness	.319***	.050	5.96	.214	.424
Relationship attractiveness → Category Innovation performance	.284***	.057	3.85	.117	.360
Relationship attractiveness → Category Cost performance	.239***	.062	4.92	.170	.398
Notes: *p<0.5; **p<0.01; ***p<0.001 (two tailed test)					

Figure 3: Resulting structural model

Model fit: (χ^2=314.965.; χ^2/d.f.=2.151; RMSEA=.045; CFI=.961; TLI = .951; SRMR = .840; CD = .987)