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Analyzing the effect of Exposure to Referral Program on  
Customer Referral Value

*A Cross-National comparative research between the Netherlands and Italy*

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## **Abstract**

Consumers have always valued opinions expressed directly to them. Marketers continue spending millions of dollars on elaborately conceived advertising and television campaigns, yet often what really influence a consumer's mind is not only simple but also free: a word-of-mouth recommendation from a trusted source. The purpose of the present research is to examine a specific marketing practice that is gaining renewed prominence, namely, customer referral programs, a common, yet under-researched WOM phenomenon. A cross-national survey research had been conducted among 117 movie goers living in Tilburg (Netherlands) and in Rome (Italy) in order to analyze and investigate potential differences concerning the relationship between WOM exposure and customer referral value in the movie industry, considering two different cultural contexts.

Additionally, this research contributes to the existent WOM literature by shedding lights on the mechanisms driving the referral behavior of customers. A moderated-mediation analysis was performed in order to tests the mediating role of customer satisfaction in the WOM diffusion process.

Simultaneously, considering that WOM is a social phenomenon, properties of social relations are likely to play a crucial role in WOM referral behavior at micro as well as macro levels of inquiry. For this reason, the model also tests whether the extent to which the referred customer receives a referral from a strong or weak tie moderate the mediating role of customer satisfaction on customer referral value. In conclusion, in contrast to previous research on WOM diffusion process, this study takes into account the potential self-selection mechanism by which receiving a product recommendation is a non-random process. From a managerial point viewpoint, it is essential to correct for endogeneity in order to successfully estimate and determine the effectiveness and benefits of WOM acquisition strategies.

## Introduction

Customers are valuable assets for the firm, but they can be costly to acquire and especially to retain. Customers' differences in the course of their relationship with the firm are reflected in their price sensitivity, lifetime duration, purchase volume, word-of-mouth generation and consumption. Actually, current thinking on marketing and customer value management focuses on what it is happening within the control zone of the company. Nevertheless, the activities happening outside the service boundaries in the customer's context are equally important enablers of customer's value creation. Marketers are increasingly keen on leveraging customer-to-customer connections. As a result, the topic of social and interpersonal influence among customers and the question of how to leverage it to acquire and retain valuable customers is attracting growing interest from marketing practitioners and academics as well. Within this frame of reference, customer referral programs are an attractive way to acquire customers because they do not require any data on the connection among customers, are simple to administer and allow for a certain degree of targeting. Recently, a study by Schmitt, Skiera and Van den Bulte (2011) has documented significant economic post-acquisition benefits as well. Referred customers had a higher contribution margin and a higher retention rate compared to non-referred customers. Higher margins and higher retention rates combine into a customer lifetime value (CLV) that is 16% - 25% higher than customers acquired through different customer acquisition channels.

In addition, WOM is not only seen as relatively cheap compared to other acquisition tools (e.g., advertising campaigns), but it is also perceived as a more persuasive, credible and a better-targeted source of information (Bone 1995; Duhan et al. 1997).

This is relevant for managers who would like to use marketing tactics that attract the most profitable customers while closely monitoring and limiting expenditures on marketing tactics that tend to attract relatively less profitable customers.

However, uncertainty about the benefits of stimulated WOM is frustrating managers facing demands to increase their marketing return on investment and considering whether and how to use WOM referral campaigns. In this study we analyze the stimulating relationship between WOM referral exposure and customer referral value, taking into account the self-selection bias by which customers select themselves into being exposed to WOM referrals. The research question address this managerial issue by investigating the referral value of customers exposed to WOM referral

programs and customers not exposed to WOM referral program, where customer referral value is defined as the individual customer's contribution to the firm's goals, in this case to recommend a movie, due to his or her referral behavior. In order to appropriately conduct the analysis and control for the self-selection mechanism, propensity score matching technique was performed on R-studio using the *MatchIt* package.

The *MatchIt* package implements the suggestions of Ho, Imai, King, and Stuart (2004) for improving parametric statistical models by preprocessing data with nonparametric matching methods, making it possible to greatly reduce the dependence of causal inferences on hard-to-justify, but commonly made, statistical modeling assumptions.

After the development of the matched dataset, the moderated-mediation analysis between WOM referral exposure and customer value has been done using PROCESS macro model 4 and model 7 on SPSS. The moderated-mediation analysis has been done initially on the overall sample composed of 117 respondents, then separately for the Italian and Dutch sample, composed respectively of 45 AND 72 participants. Overall, results shows that customer exposed to WOM referral do not have a higher referral value than customer not exposed to WOM referral. Moreover, the mediating role of customer satisfaction and the moderator role of the strength of the relationship between the referrer and the referred customers have been found to strongly influence the relationship between WOM referral exposure and customer referral value.

The research proceeds with a review of the relevant WOM literature, the development of the theoretical framework and relative hypotheses, the descriptions of the questionnaire design and adopted data collection method, the statistical analysis, and in conclusion the discussion of results and relevant managerial implications.

## Chapter 1: Literature Review

### 1.1. Exposure to WOM referral

*“People influence people. Nothing influences people more than recommendation from a trusted friend. A trusted referral influences people more than the best-broadcast message. A trusted referral is the Holy Grail of advertising.”*

Mark Zuckerberg, Facebook CEO and Founder

Word of mouth, originally defined as “informal communications directed at other consumers about the ownership, usage or characteristics of particular goods and services, and their sellers” (Westbrook 1987, 261), has widely reemerged in the last few years as the main factor affecting consumers’ buying behavior in many categories, driving up from 30% to 60% of purchasing decisions (Bughin, Doogan, and Vetvik 2010).

As noted in the work by evolutionary biologists, such as Hoppitt & Laland (2012), the integral propensity of learning from the behavior and experiences of others has been advantageous in the development of the human species, and still today remains an influential force in guiding human decision-making. Indeed, as Schueller et al., (2015) explains, humans are social beings where group memberships and herd instincts play a crucial role. To determine the drivers of word-of-mouth it is necessary to understand the basics of group psychology. The fear of isolation from others is the basis for psychological and sociological phenomena such as group pressure, mass movement and swarm intelligence. This is the reason why social networks are so successful. People follow people and trust their decisions. Additionally, consumers are overwhelmed and confused by the numerous possibilities of consumption. They are afraid to take bad decisions and spend their hard-earned money for the wrong products or services. Therefore they are constantly seeking for orientation, simplification and discharge through recommendations by trusted sources. The higher the involvement and complexity of the decision, the higher is the influence of word-of-mouth.

As a result, interpersonal influence has recently received renewed attention in social psychology and marketing research as well. There is clear evidence about the relevance of interpersonal

communications when individuals take decision and make choice in different contexts, especially those of consumption. The impact generated by WOM, has made it imperative for today's marketing researchers and managers to remain updated about its theory, power, effects and understanding. With the high involvement of today's consumer over the internet, WOM is gradually becoming a need for marketers and it has positioned itself as a topic which the researchers and marketers can't afford to ignore or underestimate. On account of this, many marketers have already recognized WOM as a "vital influential force" in their marketing campaigns (Han & Ryu, 2012).

Research works in this area started in the 60s of the last century. That was the time when the first researchers, such as Brooks (1958) and Dichter (1966) appeared.

Since then, according to Lin and Liao (2008), WOM research expanded into three directions. The first direction researchers studied the message as a basis of the communication focusing on the "face-to-face" communication and electronic WOM communication (eWOM). Second research stream dealt with WOM communication in a form of recommendation and its influence on buying decision-making, product or service evaluation and consumers' attitudes formation. The researchers of the third flow investigated the significance and effects of WOM communication in terms of the product and service, as well as the means of overcoming the negative word-of-mouth communication.

After the 90s, the researchers started to analyze the meaning of the WOM communication message in comparison to the printed forms of communication (Herr, Kardes and Kim 1991). The research continued with the investigation of the negative WOM communication effects (Blodgett et al. 1993) and the perspective of the product evaluation and buying decision-making (Bone 1995). With respect to the most cited authors in the field of WOM research, it can be said that the research was conducted in the fields of marketing and management. Moreover, WOM communication was mostly researched from the perspective of retail, advertising, technology, mathematics, law, finances and prediction (Lin and Liao 2008). In addition, WOM communication was studied from the viewpoint of new product demand prediction (Mahajan, Muller and Bass 1990, Mahajan, Muller and Wind 2000) and the WOM influences on the sales effects and organizational buyer (Ågren and Ölund 2007, Ibraimowska and Weremko 2007, Molinari, Abratt and Dion 2008). Furthermore, due to the occurrence of the new media and technology, WOM in the online environment (Nusair 2007, Moore 2010) started to considerably intrigue the researchers.

Moreover, WOM research continued within the domain of replication and improvement of the existing communication models (Keong 2006) and buying decision making (DeBruyn and Lilien 2008). However, the most interesting studies have addressed current thinking on consumer decision-making and the relationship with word-of-mouth under the umbrella of decision sciences, discovering some motivating revelations about the relationship between WOM exposure and the effective flow of information in the marketplace. Accordingly, customer referral programs have been found to impact several factors like consumers choice, service switching, purchase decision, and the perception about the product/services. The power of interpersonal influence through word-of-mouth communication has been well recognized in the consumer behavior literature as well. The voice of fellow consumers continues to be strongly heard when it comes to the most trusted forms of advertising. People are more inclined to listen to their family members, friends, peers, even to acquaintances and strangers before they trust what a salesman says; thus, WOM can often have a greater marketing effectiveness than other, non-personal forms of marketing activities and other forms of trusted advertising channels, including brand websites, consumer opinions posted online, editorial content and TV ads. Almost, 92% of consumers around the world say they trust earned media, such as word-of-mouth or recommendations from friends and family members, above all other forms of advertising — an increase of 18% since 2007, according to a new study from Nielsen<sup>1</sup>, a leading global provider of information and insights into what consumers watch and buy. Additionally, a recent CMO<sup>2</sup> research confirmed that word-of-mouth drives actually about \$6 trillion of annual customer spending. As already specified, this difference in effectiveness is even more pronounced today, when WOM interactions are readily available through online platforms and consumers have become more resistant to firm-generated messages (Trusov et al., 2009).

Recently, Voyer and Ranaweera (2015) investigated the impact of WOM on the service purchase decision by studying the interaction between tie strength and the service purchase decision and how it impacted the WOM influence. The outcome risks and the psychological risks were tested for their impact on the involvement for the purchase decision. The result showed that both the involvement and the tie strength positively affected the WOM influence. Moreover, as a negative moderation effect, the tie strength diminished the effect of involvement on WOM and that WOM

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<sup>1</sup> <https://www.nielsen.com/nl.html>

<sup>2</sup> [https://www.cmo.com/features/articles/2015/2/25/talk\\_aint\\_cheap\\_word\\_of\\_mouth.html](https://www.cmo.com/features/articles/2015/2/25/talk_aint_cheap_word_of_mouth.html)



influence increased with the intensification of the involvement. The same was also true for the tie strength. Moreover this study shows that the consumers level of involvement in the WOM was impacted more by the tangible and substantive elements of risks (physical risk or social harms) rather than that of the intangible ones (psychological risks). This means that managers should focus on creating strong tie strength connections within their consumer base in order to exploit the effectiveness of WOM transmission in the marketplace.

On account of this, Villanueva et al. (2008) showed that customers who joined the firm as a result of WOM recommendations of social connections add almost twice as much long-term value to the firm than customers who did not join as a result of stimulated WOM. Next to a difference in value between referred and non-referred customers, there is also a difference in costs, which should be taken into consideration as well. Indeed, as Reichheld et al. (2006) found, referred customers have a lower cost to serve than non-referred customers since the referrer customer may provide help with understanding various offerings and navigating certain procedures without having to rely on the firm's customer support.

Many companies have already understood this process and referral programs nowadays exist in many industries such as telecommunication, movies industry, retail, energy providers and restaurants. Referral programs are often used by service companies since personal referrals work particularly well for experience goods (e.g. Movies). Movies industry, above all, is an appealing reference category for this research. Two characteristics of the movie industry contribute to the popular belief that WOM influences moviegoers. First, as a reference category of popular culture goods, movies receive considerable public interest and consideration. Therefore, active interpersonal communication about movies is expected to exist and, as suggested by the theory of information accessibility and influences (Chaffee 1982), may persuade the audience. Furthermore, the intangible and experiential nature of movies consumption experience makes it really difficult to judge the quality of the movies before it is actually viewed. When the alternatives are difficult to evaluate, consumers often engage in WOM activity to gather more information and to reduce pre-purchase risk perceptions. Movie industry specialists have noted that tangible product attributes of movies and marketing activities do not provide an adequate and acceptable direction for increasing sales and market share predictions. They highlight the role intangible factors such as consumer perceptions and word of mouth referral behavior to forecast movies' success.

Considering the relevance of WOM behavior and customer referral programs in this sector, the movie industry offers a suitable and powerful setting to test our research hypotheses.

Equally, referral programs are particularly suitable for firms that sell high-risk goods and services (e.g. those that cannot be used on a trial basis or that have high safety or performance risk), for small firms with limited marketing budgets, and for niche markets where traditional promotions cannot effectively reach the target audience. The importance that firms attach to positive WOM and the growing use of customer referral programs emphasize the need for a current review of the existing WOM referral literature. Several studies examined reward programs design and firm profitability. For example, Biyalogorsky et al. (2001) were the first to identify conditions under which referral programs are more profitable than price discounts. Other experiments focused on the underlying conditions that make consumers more likely to transmit a rewarded referral and those under which consumers respond positively or negatively to such referrals. For example, Ryu and Feick (2007) have shown experimentally that offering a reward increases the likelihood that consumers make referrals. Concurrently, they emphasized the essential link to tie strength, showing that incentives were particularly useful in encouraging WOM between weak social ties (e.g., casual acquaintances), suggesting that reward programs may be an effective way of stimulating consumers to spread WOM beyond their usual circle of close friends and family (strong ties). Clearly, for a referral program to be effective, firms need both a high likelihood of referral on the part of the WOM provider and high receptivity to a referral on the part of the WOM receiver (Verlegh et al., 2013). Recently, one important stream of research discovered an interesting positive correlation between receiving and giving referrals. Yang et al. (2012) observed in their studies a synergy effect between receiving and giving referrals, realizing that customers get utility from engaging in both actions.

This was conceived as a fundamental finding in the marketing world, since it allowed to examine the interdependence/synergy effect between the two WOM-related activities, generation, and consumption. This synergy effect could be positive, such that the utility from engaging in both WOM generation and WOM consumption is higher than the sum of utilities from generating or consuming WOM alone. On the other hand, the synergy effect between WOM generation and WOM consumption could be negative, such that the utility from engaging in both is lower than the sum of utilities from generating or consuming WOM alone. In different words, consumers could view the two WOM activities as substitutes. In such cases, consumers may perceive the two

activities as competing for their social-cognitive capacity, in which participation in WOM generation (consumption) will reduce the participation in WOM consumption (generation). Accordingly, the authors revealed that holding the intensities of WOM generation and WOM consumption activities constant, the probability of an individual both generating and consuming WOM is larger when there is a positive synergy than when there is a negative synergy. It is therefore necessary and convenient for firms to target customers with high intensity of and positive synergy between the generation and consumption of WOM in their WOM campaign, in order to stimulate and enhance the WOM diffusion process and simultaneously increase the customer base value, by increasing the customer referral value.

In conclusion, considering that the number of referral marketing programs is expected to increase significantly as a result of the rise in social media usage, the heightened use of customer databases by firms and the growing number of platforms to outsource referral programs, it is relevant for academics and marketing manager to further explore the relationship between exposure to WOM referral programs and customer referral value in order to better manage WOM acquisition campaigns.

This is an interesting area of inquiry in that the effect of referral programs on subsequent WOM referral value might actually be more limited or robust than previously assumed in the relevant academic literature.

## **1.2. WOM Referral Value**

It is evident that the creation of value by customers for firms occurs through a more elaborate mechanism than through purchase alone. As active participants and collaborative partners in relational exchanges, customers co-create value with the firm through involvement in the entire service-value chain. From a product or service provider's point of view, the value of an individual customer represents a specific measure for the future economic worth of the relationship. It needs to comprise all direct and indirect contributions of the customers that enable the service provider to reach his goals. These contributions include monetary and non – monetary elements like behavioral manifestations of customer engagement which can be both positive (i.e. posting a positive brand message on a blog) and/or negative (i.e. organizing a public action against a firm). Recently, Kumar et al., (2010) pointed out the importance of recruiting customers not only based

on their customer lifetime value (CLV) but also taking into account their customer referral value (CRV), that characterize the number of WOM referrals a customer makes. Specifically, customer referral value is defined in WOM literature as the individual customer's contribution to the firm's goals due to his or her referral behavior and it is reflected in the number of potential customers the user of a certain product or service can reach and influence with positive, negative or neutral information within a certain period of time (Herrmann and Fuerderer, 1997). A very important stage in the process of maximizing the value of the customer base is to determine how much of each customer's value stems from his/her referrals of new customers (Kumar et.al 2010). CRV measurement and analysis helps determine which customers should be targeted for WOM referral programs campaigns with the purpose of enhancing and consolidating the flow of information in the market. Many firms still go on the traditional route, relying on the CLV metric to make such determination. But it is clear that customer referral value and customer lifetime value are not interchangeable metrics and researchers unexpectedly ascertained that customers with a high customer lifetime value are not necessarily the same customers as those with a high customer referral value. Indeed, if customer lifetime value and customer referral value were simply and positively correlated, any difference between these metrics would not be particularly interesting from a managerial perspective. Indeed any action that would increase customers' lifetime value would immediately translate into higher referral value. But, actually this is not the case. When researcher analyzed the specific referral behavior of customers with different CLV values, they found that a high CLV is not a good predictor of CRV and consequently it is a very debatable proxy for the management of customer value. Therefore, it is clear that in order to manage the customer base value efficiently, both measures are required (Kumar et al. 2010). By adopting a more comprehensive view, firms may benefit from offering incentives based not only on the customer lifetime value of the referred customer but also on his/her willingness to refer among their peers.

However, an essential and strategic question remains whether the customers recruited by referral also turn to be good advocates of the firms, or in other words they have a higher referral value compared to customers who were not acquired through referral programs. Definitely, this is relevant for marketing managers since it is clear that the success of WOM referral strategies does not only depend on the contribution margin of the acquired customers but also on the extent to

which referred customers continue spreading the good word among their peers (Haenlein and Libai 2013).

## **Chapter 2: Theoretical Framework and Hypotheses**

In addition to measuring the effect of referral exposure to a customer's subsequent referral value, this study also contributes to the WOM literature by shedding lights on the mechanisms driving the referral behavior of customers. Understanding this underlying mechanisms provides guidelines on how to improve WOM strategies. To accomplish this, we perform a moderated-mediation analysis that tests the mediating role of customer satisfaction. Initially the moderated-mediation analysis was conducted among the entire sample composed of 117 respondents. Subsequently the moderated-mediation analysis was conducted on the Italian and Dutch sample in order to examine potential differences among the relationship between WOM referral exposure and customer referral value in two different cultural contexts.

The model also tests whether the extent to which the referred customer receive a referral from a strong or weak tie moderates the mediating role of customer satisfaction on WOM referral value. This research suggests that exposure to WOM referral can influence the referral value of customers through the mediating effect of satisfaction. The positive effect of customer satisfaction on WOM referral intention and behavior is well-established in the literature (Anderson 1998; De Matos and Rossi 2008). Indeed, customer satisfaction is considered to be one of the main antecedents of WOM behavior. A satisfied customer is likely to share his/her consumption experiences with other people.

However, a requirement for establishing the mediating role of satisfaction is to show that WOM referral exposure affects satisfaction. The effects of WOM exposure on satisfaction are less known. An overview of our conceptual framework is given in Figure 1 (Appendix). In the second chapter, we provide the theoretical background to these effects and explain the development process of the hypotheses.

## **2.1. The effect of WOM Referral Exposure on Satisfaction**

A review of existing literature indicates a wide variance in the definition of customer satisfaction. Most definitions have favored the notion of customer satisfaction as a response to an evaluation process. Specifically, there is an overriding theme of customer satisfaction as a summary concept (i.e., a fulfillment response (Oliver 1980); affective response (Halstead, Hartman, and Schmidt 1994); overall evaluation; psychological state; global judgement and evaluative response).

However, all these definitions share some fundamentals. When examined as a whole, three general components can be identified: customer satisfaction is a response (affective or cognitive) and this response pertains to a particular focus (expectations, product, consumption experience) and occurs at a particular point of time (i.e. after consumption, after choice, based on accumulated experience).

Accordingly to Shankar et al. (2003) we define satisfaction as the pleasurable fulfillment of service.

The dominant model for conceptualizing and measuring customer satisfaction in the relevant literature has been the expectancy disconfirmation theory. This view holds that customers evaluate a product or service performance and compare their evaluation with their expectations prior to purchase or consumption (Oliver 1980). Expectations delineate customer's anticipations about the performance of products and services, while perceived performance investigates the customer's experience after using products or services. When the actual performance of a specific product or service cannot meet the customer's expectation, negative disconfirmation will occur, leading to customer's dissatisfaction.

On the other hand, if a product or service outperforms expectations (positive disconfirmation) post-purchase satisfaction will result.

We proposed that the referral a customer receives act as information prior to purchase upon which the customer can base his/her expectations regarding performance quality.

In the motion-picture industry, the role of WOM in forming such expectations is known to be particularly important because of the experiential and intangible nature of movie consumption experiences which makes it hard for customers to form expectations by other means (Neelamegham and Jain 1999). In addition, the referrals received by customers are positive in nature and made by customers who positively evaluated the product or service. The more someone

enjoyed a consumption experience, the higher is the likelihood to share his positive experience and refer to his/her friends (Anderson 1998). Through this mechanism, referred customers are likely to receive above-than-average positive information about a product or service, compared to non-referred customers, and so to form higher expectations about the referred product or service, than non-referred customers.

Additionally, referrals are known to be a particularly valuable source of information for customers. According to the accessibility/diagnostic theory (Feldman and Lynch 1988), the information in memory is likely to influence the consumer when it is accessible and diagnostic. Referrals are accessible in that they are easy to retrieve, mostly because of their vividness (Herr et al., 1991). Referrals also have a high diagnostic value because, unlike advertising, they are transmitted by a non-commercial source, and therefore are generally seen as a credible and trustworthy source of information.

Consequently, this study predicts prospective customers exposed to referrals to show a higher level of expectations before the consumption experience than non-referred customers, and hence lower satisfaction (Oliver 1980). This leads to the following hypothesis:

*H1: Customers exposed to WOM referrals are, on average, less satisfied with their product or service consumption experience than customers not exposed to WOM referrals.*

## **2.2. The moderating role of Tie strength on Customer Satisfaction**

While we expect a negative and significant main effect of WOM referral exposure on customer satisfaction, it is possible that some of the customers who are exposed to WOM referrals turn out to be more satisfied with their product choice than others. One important factor that can moderate the relationship between the WOM referral exposure and customer satisfaction is the degree to which a referral's recipient receives referrals from a strong or weak tie.

Consumers often use informal or social sources when they seek information as they are inclined to trust the opinions of others more than they trust formal marketing sources (Flynn et., 1996).

Several studies suggest that WOM effectiveness depends on the social sender-receiver relationship.

WOM communication takes place in a social relationship that can be primarily characterized by the strength of the tie between the information receiver and sender. Accordingly, a primary

question in understanding the role of social influence in the diffusion of new products, ideas, behavior, and outcomes is how heterogeneity in social relationships between individuals impacts the influence they exert on one another.

Several indicators of tie strength have been proposed, most notably by Mark Granovetter in his seminal work *The Strength of Weak Ties*. Granovetter differentiated between strong and weak ties and proposed the weak ties hypothesis: the stronger the tie between any two people, the higher the fraction of friends they have in common. Much of the current methodology centered on tie strength has stemmed from Granovetter weak ties hypothesis and his proposed four dimensions of tie strength: the amount of time spent interacting with someone (frequency and duration of the relationship), the level of intimacy (mutual confiding), the level of emotional intensity (closeness), and the level of reciprocal services which characterize the tie. More recently, three additional dimensions of tie strength have been proposed: emotional support, structural variables (i.e. network topology), and social distance (the difference in socioeconomic status, education level, political affiliation, race, and gender). These categories have simplified the definition and quantification of numerous possible predictors of tie strength, some generalizable to any network, and some specific to a limited number of social networks.

As Granovetter specified, weak ties typically include acquaintances and relationship with strangers and have the advantage of not being limited to the receiver's social network. On the other hand, strong ties include family and friendship relationships. Strong tie relationships are often homophilous in nature, meaning that they form among individuals who share similar cultural, demographic, or attitudinal characteristics. According to Granovetter, the stronger the tie, the more homophilous the tie.

Regarding WOM referrals, the theory of “strength of weak tie” arises from their important bridging function that allows information to travel from one densely knit "clump" of a social structure composed of referral actors to another more cohesive segment of the broader referral system through a weak tie. If weak ties did not exist at all, a system would consist of disjointed and disconnected subgroups, inhibiting and reducing the widespread diffusion of information. That is, weak ties encourage connections across cliques or subgroups, opening more and more paths for the rapid and efficient exchange of opportunities and information across social distance. Such interaction and sharing across heterogeneous weak ties can therefore be viewed as contributing to social integration and cohesion.



As expected, individuals within strong ties are more readily available and result in frequent interpersonal information flow where customers are actively involved in WOM behavior, and where a transfer of information is likely arise.

Interestingly, researchers found that individuals who are in a strong tie are more likely to share information than individuals in weak ties and, at the same time they are more willing to spend time and effort on behalf of each other (Reagans & McEvily, 2003). Indeed, those with strong ties are likely to be in close physical or psychological proximity to each other, which facilitates the behavior of information seeking and sharing (Reingen and Kernan, 1986). This is also supported by Bone (1995), who points out that WOM generally occurs more in groups with strong relations compared to groups with weak relations. The motivation is that information obtained from strong-tie sources is perceived to be more reliable and trustworthy than impersonal information or information from superficial acquaintances or strangers (Kirby and Marsden, 2006).

Again, research on natural occurring WOM confirmed that consumers are more likely to make a referral to a strong tie than to a weak tie, perhaps because their communal orientation toward strong ties motivates them to share the pleasure that they have received from a consumption experience. Indeed, as Duhan et al., (1997) argued, influential recommendations require knowledge of both the product/service and the person receiving the recommendation, especially for products with affective evaluative cues. Strong ties are likely to be knowledgeable of each other's preferences and the relevance of their information. Compared to firms and other untargeted sources of information, the referring customer is likely to be familiar with the referred customer's preferences, making his or her referrals well-matched with the recipient's preferences and needs.

However, although the effectiveness of WOM may depend on the strength of the tie across which a message is communicated, this is not easily managed by the firm within the context of a WOM marketing campaign and more research is needed to further explore this association.

Considering previous studies, this research predicts that the extent to which customers receives referrals from a referrer who is perceived as a strong tie will moderate the negative effect of WOM referral exposure on customer satisfaction. Specifically we expect referred customers who typically receive referrals from a strong tie to show a higher level of satisfaction than customers who typically receive referrals from a weak tie.

The following hypothesis summarizes the above discussion:

*H2: The degree to which a referral's recipient receives referrals from a strong tie moderate the relationship between the exposure to WOM referrals and satisfaction, in that customers who receive referrals from a strong tie are more satisfied with the product or service consumption experience than customers who receive referrals from a weak tie.*

### **2.3. Impact of Customer Satisfaction on WOM Referral Value**

Empirical studies investigating the antecedents of word of mouth typically focus on the direct effects of consumer's satisfaction and dissatisfaction with previous purchasing experiences. The higher the satisfaction level of an individual with a consumption experience, the greater the amount of recommendations he is likely to make. It is not surprising, therefore, that several studies have found customer satisfaction to be a positive and significant antecedent of customer referrals in different product categories and services such as for a new car purchase, movies consumption experience, law firms, nonprofit organizations, fast-food restaurants, financial services and many more.

Precisely, the level of customer satisfaction has an influence on two purchase behaviors, namely, repurchase intentions and WOM behavior (Bearden and Teel 1983; Maxham and Netemeyer 2002; Oliver 1980; Ranaweera and Prabhu 2003). Several reasons for these effects are captured in the utility-based model proposed by Anderson (1998), who asserts that a customer's utility of referring a product or service increases as the satisfaction with the consumption experience increases. Respectively, the likelihood of customers spreading WOM will depend on their satisfaction level for at least two reasons. First, the extent to which the product or service performance exceeds the customer's expectations might motivate him or her to tell others about his or her positive consumption experience. Secondly, to the extent that customer's expectations are not fulfilled, possibly creating a customer regret experience, the customer will engage in WOM behavior as a form of "venting" his or her negative emotions, such as anger and frustration, reducing anxiety, and seek retaliation (Anderson 1998; Oliver 1997; Sweeney et al. 2005).

On the other hand, a very satisfying product experience is more memorable and thus more likely to be talked about than a less satisfying product experience. According to this, as Berger et al.,

(2014) discovered, another purpose for customers to engage in WOM referrals is self-enhancement.

The tendency to self-enhance is a fundamental human motivation. People like to be perceived positively and present themselves in ways that garner such impressions. Satisfied customers can get positive recognition from others by describing their positive consumption experience with products or services.

All these motives suggest that the more satisfied a customer is, the more likely he/she will share his/her consumption experiences with others. A recent meta-analysis by De Matos and Rossi (2008) gives strong empirical support for this positive relationship.

Consistent with these findings, this research proposes the following hypothesis.

*H3: Customers who are more satisfied with a product or service consumption experience have a higher referral value than customers who are less satisfied.*

## **Chapter 3: Questionnaire design and Data collection Method**

### **3.1. Cross-national survey design**

Cross-national comparative research is a type of research methodology that seeks to make comparisons across different countries and/or cultures. Cross-national research may be described as any research that transcends national boundaries. National-cultures is gaining more and more importance in marketing research as a general theory. In international marketing, due to the diversity of foreign countries, comparative studies of markets and consumers are needed before marketing strategies can be successfully implemented abroad.

For instance, a WOM campaign that creates successful opportunities and outcome in a given country would be expected to differ from those of another country, mostly because of cultural differences.

Cross-national surveys can be considered to have some extra layers of survey design, in addition to the aspects that must be considered for any survey carried out in a single country. The first crucial component is to decide which countries to include in the study.

As already specified, data for this research has been collected among movie viewers living in the Netherlands and in Italy, specifically in the cities of Tilburg and Rome.

The second component of design unique to cross-national surveys is the choice of how to distribute the sample over countries. Often, reflecting the recognition of countries as key analysis domains and between-country differences as key estimates, the choice is to aim for equal sample sizes in each country. Indeed, the precision of such estimates is likely to be maximized by attempting to achieve approximately equal effective sample size per nation. However, in this research we collected respectively 72 respondents in the Netherlands and 45 in Italy.

The third component of design that has special characteristics in the case of cross-national surveys is the identification of meaningful relevant concepts and items to study. Indeed, the analyzed concepts and construct must be relevant and conceptually equivalent in both nations.

According to Harkness et al., (2014), when designing a questionnaire and other survey materials, it is essential for researchers to attempt to identify and be informed about the extent to which members of different cultures may differ systematically in how questions are understood and answered.

Precisely, the key points that must be taken into consideration from the cross-national survey literature includes the effect of cultural mindset, cognition and response style on survey response. Cultural mindset, also referred to as cultural frames or dimensions, has been found to inform fundamental aspects of cultures such as self-concept as well as what is considered to be salient and thus more likely to be encoded in memory and recalled, and what may be perceived as sensitive to discuss with other people. Accordingly, the International Organization for Standardization<sup>3</sup> (2012) recently confirmed that research findings in cross-nation survey are effectively affected by questions wording, order, and many other aspects of the questionnaire design.

On the ground of this, in order to obtain high quality comparable data, it is essential to standardize the design and implement a translation procedure that yields conceptually equivalent versions of the survey questions. Indeed, cross-cultural researchers conducting studies across different groups need to consider whether the scores obtained in two different countries are comparable. With the aim of achieving meaningful cross-cultural comparison, the issues of equivalence and response bias has to be addressed. Response bias is the systematic tendency to distort responses to rating scales so that observed scores are unrelated to the true score of the individual by either selecting

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<sup>3</sup> <https://www.iso.org/home.html>

extreme or modest answers (extreme or modesty response bias) or a shifting of responses to either end of the scale (acquiescence response bias). The cultural tendencies belonging to different cultural groups, are likely to change the responses of participants and make them incomparable across cultural groups, therefore resulting in a bias. In the next paragraph we explained the adopted questionnaire translation procedure and the pre-testing stage.

### **3.2. Questionnaire Translation and Pre-testing**

The survey-based approach to comparative research has a number of important strengths. Survey-based approaches provide the means of obtaining a systematic profile of each country and a formal way of evaluating the extent to which country differences exist. However, the approach encounters important challenges which, unless dealt with, limit the validity of cross-national comparison. These problems fall into two broad categories: limitations related to the survey method itself and limitations due to the difficulty of obtaining equivalent and comparable information from each country.

The objective of the adopted translation process is to maximize the comparability of survey questions across different cultures and languages (original language: English; target language: Italian) and reduce the measurement error related to question design and meaning.

Different methods have been developed to standardize the translation process across many countries. In this research the forward-backward translation method has been selected considering the questionnaire design and the target population.

The main advantage of forward translation is that the translator can be guided not to focus on how the item will translate linguistically into the target language, but on the psychological significance of the items. In a well-devised forward translation process, each item that needs to be translated has a clear correspondence with its intent and is translated based on that specific intent. In this way, the researcher not only translates the words but is able to take into account their intent and give the target-language form the correct twist in order to capture the intended meaning.

Taking into account some relevant suggestions from the literature, the initial translation of the questionnaire from the original language (English) to the target language (Italian), the so called forward translation, should be made by at least two independent translators McGorry et al., (2000).

One of them, should be well aware of the concepts the questionnaire intend to measure, in order to provide a translation that more closely resembles the original instrument. At the same time, a naïve translator, who is completely unaware of the objective of the questionnaire, produced the second translation so that subtle differences in the original questionnaire could be easily detected. The naïve translator who was selected for the forward translation process needed to respect the following qualifications:

- Native speaker of Italian language
- Being Familiar with the Italian culture
- Professional English speaker
- Be completely unaware about the research question of the study

The two translations were then compared items by items and assessed in terms of their conceptual equivalence, readability, comprehensibility and clarity. In this way, any discrepancies between the two translators had been easily identified, discussed and resolved. As a result, the reconciled forward translation has been created by selecting the best fitting translations of the measurement items. However, the reconciled forward translation has been independently back-translated (i.e. translate back from Italian language into English language) to ensure the accuracy of the translation. The backward translation was designed to not assess the linguistic equivalence, but the conceptual and cultural equivalence. As with the forward translation, the backward translation was performed by two independent translators. Also in this case, the translators needed to respect some qualifications in order to be selected. Precisely, the translator had to meet the same qualifications required for the selected forward translator and additionally must be a native English speakers. The result of the backward-translation process was a back-translated version of the reconciled forward translation. Focusing on the conceptual equivalence and on specific items that were suspected to be particularly sensitive to translation problems, the back-translated version was finally compared and assessed item by items with the original English version to ascertain the complete conceptual equivalence. Figure 10 in the Appendix, illustrates the adopted forward-backward translation process.

## **Questionnaire Pre-test**

As final step, in order to determine that the questionnaire was entirely understandable in both contexts, it was necessary to test the instruments on the target population.

Pre-testing questionnaires is an essential step in the survey development process. When collecting pretest data, it is imperative to use the same administration technique that is being used in the full-scale survey. According to this, we decided to pretest 5 participants (3 English speakers and 2 Italian speakers) using cognitive interviewing as pre-testing method.

The adopted questionnaire pretest procedure uses a cognitive interviewing approach in that it provides an overall overview of how respondents process and interpret the survey instruments. Moreover as Beatty et al., (2007) suggest, cognitive interviewing is regarded as the method that is the most sensitive to underlying dynamics of the survey response process, and particularly useful for diagnosis of variation in item comprehension across individuals, or sub-populations.

Cognitive Interviews (CI) is used to inform item revision decision, and can provide evidence of validity based on test content (e.g. the clarity and relevance of items), and response processes (e.g. the thought processes and operations involved in responding to an item) Dumas et al., (2008). Using thinking-aloud procedures, the interview ask respondents to describe their thinking concurrently as they answers each questions. This technique is based on the notion, advanced by Ericsson and Simon (1980), that individuals can provide access to their cognitive processes by spontaneously talking through their activities as they complete them. Interestingly, Olson et al., (1984), stated that think-aloud technique is one of the most effective ways to assess higher-level thinking processes, those which involve working memory. Working memory is a portion of the short memory which is concerned with immediate conscious perceptual and linguistic processing, and that it could also be used to study individual differences in performing the same task. The purpose, in this case, was to identify items where there was a misalignment between participants' interpretation and measurement intentions and define solutions to modify those items based on participant responses. In this situation, the interviewer asked respondents about any potential problems they observed while the subject was completing the questionnaire (e.g. mistakes, erasures, questions that took a long time to complete or appeared overly difficult, etc.). After the instruments have been sufficiently and comprehensive reviewed, a few general questions were asked regarding the questionnaire before ending the pretest meeting. The questions may include:

- Was the questionnaire comprehensive?
- Are there any questions you feel may be too sensitive or that may affect the response rate that we should consider deleting?
- Are there any questions you expected that we would ask and that we didn't?
- Was the questionnaire too long, too short, or about right?

In analyzing cognitive interview transcripts we attempt to unearth evidence of question performance in terms of the problems that the question structure, content and survey context may cause respondents. These data can be interpreted as being qualitative in nature, in so much as they are respondents' accounts of their thought processes, understanding of the survey response task presented, and the factors that shape their responses. The analysis of the thinking aloud transcripts enables us to ensure that key measurement items in the survey questions were understood and interpreted in the same way by all respondents, without identifying relevant and systematic differences between English and Italian respondents. These individual items debriefing helped us to finally determine that the questionnaire was completely understandable and conceptually equivalent, therefore ready to be administered to participants.

### **3.3. Data Collection Method**

As already stated, primary data for this study have been collected from a survey research among movie viewers living in the Netherlands and in Italy, specifically in the city of Tilburg and Rome. The choice to use a survey is consistent with current practice in the WOM literature (Anderson 1998; Uncles et.al 2013; Yang et al 2012). A key reason to use survey data is that it allows to study the moderated-mediating mechanism that links receiving and giving referrals, and simultaneously to examine the mediating role of customer satisfaction and the moderator role of tie strength.

In order to obtain a higher degree of control over the data collection process and environment, face-to-face survey has been selected as data collection method. As it is quite clear from their name, face-to-face or personal interviews are based on a direct encounter between the interviewer and the respondent, in which the interviewer administers the questionnaire in person using a computer-assisted personal interviewing system (CAPI). Face-to-face method, not only implies



greater flexibility in targeting the relevant research objectives, but it also gives great responsibility to the researcher, since the quality of collected data has a key impact on the statistical processing. Specifically, this method is mainly adopted when a specific target population is involved. The target population in our study is composed of movie viewers approached at the entrance of the movie theatre Pathè (Tilburg: Pieter Vreedeplein 174, 5038 BW Tilburg) and Cinema Lux (Roma: Via Massaciucoli 21, 00199 Roma, Italy). Respondents were randomly recruited among those intent to leave the movie theatre after watching a movie, by asking them whether they were willing to participate in this thesis research.

We were aware of the fact that, while the physical presence of the interviewer has its advantages with regard to data quality, it also carries the risk that the interviewer will influence the respondent's behavior. Accordingly, in order to minimize interviewer effects, it is important to standardize the interview situation as much as possible. It is essential that questions are phrased in a way which ensures consistency between the answer and the targeted variable. For this reason, survey questions have been formulated in such a way that the respondents immediately insert an answer in the question format that exactly fits the response format. Therefore, respondents should not have to ask for an explanation of the question on the corresponding response format. At the same time, the interviewer should not have to probe because the respondent's answer does not fit any of the response categories.

This survey investigates the WOM referral behavior of the respondents and contained a number of psychometric scales necessary to test the three developed hypothesis.

Specifically, the questionnaire consists of two sections. Initially, participants are asked to recall their last movie visit. In this part of the survey, respondents will report the title of the movie they have just seen at the movie theatre, and are asked to answer a set of questions keeping that movie in mind:

- *Exposure to WOM referral:* Respondents answered for the movie the indicated as the last movie they had seen, whether they were exposed to WOM referrals prior to seeing the movie.

This is a binary variable that takes value one for respondents who reported being exposed to WOM referrals and zero for those who were not.

Specifically, respondents were asked to respond to the following question:

*Did someone recommend you this movie before you watched it?*

- *Satisfaction:* This variable captures the degree of satisfaction of the respondents with his/her movie of choice. Satisfaction is measured with three items (one reversed) and seven-point Likert scales, adopted from Maxham and Netemeyer (2002).
- *Affective evaluation:* Seven items measure the affective evaluation (AFF), all on 11-point semantic differential scales with anchors “not enjoyable” vs. “enjoyable”, “boring” vs. “interesting”, “unpleasant” vs. “pleasant”, “unlikable” vs. “likable”, “depressing” vs. “uplifting”, “not entertaining” vs. “entertaining”, “irritating” vs. “not irritating” adopted from Wilcox et al. (2011).
- *Cognitive evaluation:* Participants’ cognitive evaluation (COGN) was assessed with four items: overall quality of the commercial, quality of the acting, quality of the story, and quality of the production, all on 11-point scales with anchors “poor” vs. “excellent”.
- *WOM referral value:* We identify WOM referral value by measuring the total number of referrals a customer has made and plans to make in the future. To account for the long-tailed distribution, we take the natural logarithm of the total number of prospective customers a consumer referred to or intends to refer in the future, plus one to accounts for zero values.

Specifically, respondents were asked to respond to the following question:

*How many people, approximately, do you intend to recommend this film to?*

In the second part of the questionnaire, participants are asked to complete items that are not specific to the movie in question:

- *Tie Strength*: the strength of a tie is defined, according to Granovetter (1973) as a combination of the amount of time (frequency and duration of the relationship), the emotional intensity (closeness), the intimacy (mutual confiding), and the reciprocal services which characterize the tie. The measurement scale was developed by Frenzen and Davis (1990) based on inspiration from Granovetter (1973) as well as Marsden and Campbell (1984). An alpha of 0.93 was reported for the scale by Frenzen and Davis (1990). Those authors also reported that the temporal stability (week test-retest correlation) was 0.91 and that there was a 0.65 correlation between respondent and target's scale scores<sup>4</sup>.

We also collected additional individual-level variables that serve as control variables and instrumental variables in the model. Specifically, we include *Age*, and *Gender* of the respondents, *Opinion Leadership* and *Opinion Seeking*. Opinion leadership has been defined in different ways. Originally, Katz and Lazarsfeld (1995) defined opinions leaders as “individuals who are likely to influence other persons in their immediate environment”. Successfully, Flynn et.al (1996) applied the concept to marketing by stating that “Opinion leadership occurs when individuals try to influence the purchasing behavior of other consumers in specific products or services fields”. Compared to opinion leadership, opinion seeking is a more recent concept. Opinion seekers have been defined as "individuals who sought information or opinions from interpersonal sources in order to find out about and evaluate products, services, current affairs, or other areas of interest" Feick et al., (1986). They seek information and advice from opinion leaders as they do not have the same interest in and knowledge of the product/service category. Feick et al., (1986) suggest an overlap between opinion leadership and opinion seeking. According to their findings both opinion seekers and opinion leaders, seek and diffuse market information and therefore represent important links in the flow of market information. Several studies have pointed at this overlap and the relation between opinion leadership/opinion seeking and the flow of information in marketplace. Therefore, we include both of these variables in our study.

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<sup>4</sup> Bruner, G. C., Hensel, P. J., & James, K. E. (2001). Marketing scales handbook. Chicago: American Marketing Association.

- *Opinion seeking*: This variable captures the extent to which a customer looks for opinions from others before choosing movies. The scale is adopted from Flynn et.al (1996) and comprises six seven-point Likert items (three reversed).
- *Opinion leadership*: This variable captures the extent to which the customer exerts influence on the movie choices of others. The scale is adapted from Flynn et al. (1996) and comprise six seven-point Likert scale items (three reversed).
- *Gender and age*: Participants are asked about their gender (male-coded as 1, female as 0) and age (continuous scale).

Furthermore, we included several covariates necessary for the calculation of the propensity score values:

- *Liking Theater*: respondents were asked to indicate using a scale from 1 to 7 where 1 means "Not at all" and 7 means "Very much", How much do you enjoy going to the movie theater?
- *Education Level*: respondents were asked to indicate their highest level of education achieved, by selecting one option from – lower than high school diploma, bachelor degree, master degree, and PhD.
- *Current status*: respondents were asked to indicate their current status by selecting one option from – Unemployed, student, full-time employer, part-time employer and retired.

Additionally, considering the comparative nature of this research, we also included a binary variable define as Country, which takes values 1 for respondents who answered the questionnaire in the Tilburg and value 0 for respondents who answered the questionnaire in Rome.

The final questionnaire, both in the Italian and English version are reported in the Appendix.

## **Chapter 4: Statistical Analysis**

### **4.1. Sample and Descriptive Statistics**

The data collection process started on June 15<sup>th</sup> and terminated on June 28<sup>th</sup>. Specifically, during the first week, data has been collected in the Netherlands (Pathè Movie Theater, Tilburg) while during the second week data has been gathered in Italy (Cinema Lux, Rome).

Overall, the final sample consists of 126 respondents who answered the questionnaire immediately after the movie consumption experience at the movie theater.

However, we excluded respondents for which we could not match the self-reported movie title with the IMDb repository, as well as movies for which there was missing data. The final sample consists of 117 respondents (64 Female and 53 Male), of whom 72 living in Tilburg and 45 living in Rome. Precisely, 34 male and 38 female participants answered the questionnaire in Tilburg while 19 male and 26 female participants filled in the questionnaire in Rome.

Respondent's age ranges from 19 to 38, but the majority of the respondents, about 88%, range from 19 to 30 years old. The average age in the sample is 25 years old.

More than the half of the participants are students (54.70%), but there are also 21 full-time employees and 20 part-time employees.

Among the respondents, 61 mentioned having been exposed to WOM referrals before watching the movie, while the remaining 56 were not exposed to WOM referrals.

Between the 61 respondents who declared to have been exposed to referral programs, 28 received the referral through Social Media networks, 18 received the referral face-to-face, 9 via phone and the remaining 5 via SMS/instant messaging. Moreover, among these 61 respondents who declared to be exposed to referral programs, 24 (almost 40%), stated they received the referral from a friend, while 15 from an acquaintance, 8 from the partner, 8 from strangers, 4 from a family member and 2 from some colleagues.

The majority of the respondents, 112, declared to be exposed to the identified movie for the first time, while only 5 respondents informed to have already seen the movie they indicated in the questionnaire. Furthermore, 48 (41%) of the respondents stated to go to the movie theater more than once in a month, 63 (53%) once a month, 5 twice a year and only 1 almost never. Additionally, respondents seem to prefer going to the movie theater mostly with friends, 87%, and with the partner 76%. Nevertheless, 32 respondents prefer going to the movie theater with family members

and 24 prefer going alone. The preferred movie genres for the respondents is comedy, with 90% of the participants indicating it as best movie genres to watch at the movie theater. However, also horror, thriller, action and romantic movies are well appreciated, with a percentage of respondents indicating them as most preferred movie genres respectively equivalent at – 86% - 80% - 70% and 47%.

*Table 1: Cross tabulation table between Country and Gender*

Country:	<i>Gender</i>		<i>TOTAL</i>
	<i>FEMALE</i>	<i>MALE</i>	
Rome	26	19	45
Tilburg	38	34	72
	64	53	117

*Table 2: Cross tabulation table between Country and WOM Referral Exp*

<i>Country:</i>	<i>WOM Referral exposure</i>		<i>TOTAL</i>
	<i>NO</i>	<i>YES</i>	
<i>Rome</i>	25	20	45
<i>Tilburg</i>	31	41	<b>72</b>
	56	61	117

*Table 3: Education Level*

	<i>Frequency</i>	<i>Percent of cases</i>
High school degree	32	27.1 %
Bachelor's degree	36	30.6 %
Master's degree	45	38.1 %
PhD	3	3.4 %

*Table 4:*  
*Current Status*

	<i>Frequency</i>	<i>Percent of Cases</i>
<i>Employed full-time</i>	31	26.3
<i>Employed part-time</i>	20	16.9
<i>Unemployed</i>	2	1.7
<i>Student</i>	64	54.2

*Table 5:  
Companion*

	<i>N</i>	<i>Percent of Cases</i>
<i>Friends</i>	102	82.2%
<i>Family</i>	32	27.4%
<i>Alone</i>	24	20.5%
<i>Partner</i>	89	76%

*Table 6: Movie Genres Preferences*

<i>Movie Genres</i>	<i>N</i>	<i>Percent of Cases</i>
<i>Comedy</i>	106	90%
<i>Horror</i>	101	86%
<i>Romantic</i>	55	47%
<i>Action</i>	82	70%
<i>Drama</i>	28	24%
<i>Western</i>	24	21%
<i>Thriller</i>	93	80%
<i>Animated</i>	46	39%
<i>Classic</i>	24	21%
<i>TOTAL=559</i>		<i>477%</i>



## 4.2. Measurement Properties

When using measurement scales in the questionnaire it is imperative to calculate and report Cronbach's alpha coefficient for internal consistency reliability for any scales or subscales that has been used in the survey. The internal consistency method has been used in this research in evaluating the reliability of the survey instruments considering that, compared to other methods, it does not require either the splitting or repeating of items. Indeed, the internal consistency method requires only a single test administration and provides a unique estimation of reliability for the given test administration. The output is an indicator of how well the different items measure the same concepts and it can be interpreted as a statistic that reflects the homogeneity of the scale.

Cronbach's alpha values are affected by reverse score items. Therefore, before implementing the reliability analyses, every reversed item in survey instruments was reversed.

As can be seen in Table 7, the survey instruments in the questionnaire have been found to be highly reliable, with Cronbach's alpha values ranging from .941 to .971, suggesting a more than acceptable internal consistency reliability. Specifically, the *Tie strength* and the *Affective Evaluation* scales have been found to be highly reliable, with a corresponding Cronbach's alpha values respectively equal to 0,958 and .971. Also the *Opinion Seeking* measurement scale has been found to be highly reliable with a Cronbach's alpha value equal to .968. The *Opinion leadership* scale shows initially a Cronbach's alpha value equal to .764, but analyzing the item total statistics table, which describes how well each individual item relates to the total of all the items of the scale, it appears that by deleting one specific item (*Opinion\_Leaders\_6*), the reliability of the scale would improve jumping at .856, more than .10 marginal improvement. We ran again the reliability analysis on this scale, including this time only five items. Also this time by analyzing the items total statistics table, it appears that by deleting one specific item (*Opinion\_Leadership\_1*) the reliability of the scale would considerably improve, arriving at a Cronbach's alpha value equal to .95. We decided to remove also this item from the scale.

*Table 7: Cronbach's alpha from Reliability Analysis*

MEASUREMENT SCALE	CRONBACH'S ALPHA $\alpha$
<i>Tie Strength</i>	0,958
<i>Satisfaction</i>	0,941
<i>Cognitive Evaluation</i>	0,948
<i>Affective Evaluation</i>	0,971
<i>Opinion Seeking</i>	0,968
<i>Opinion Leadership</i>	0,951

Overall, after conducting reliability analyses, we determined the survey instruments to be highly reliable. However, in order for a survey research to provide sufficiently sound, consistent and relevant evidence, the information it provides must be both reliable and valid.

Validity, specifically construct validity, refers to the extent to which a measure adequately represents the underlying construct that is supposed to measure. While translation validity examines whether a measure is a good reflection of its underlying construct, the criterion-related validity examines whether a given measure behaves the way it should, given the theory of that construct. This assessment is based on quantitative analysis of observed data using statistical techniques such as correlational analysis and factor analysis. The validity test has been performed by correlating each item questionnaire scores with the totally scores using Pearson Product moment correlation on SPSS. Item-item questionnaire that significantly correlated with total score

indicates that the items are valid. From the validity analysis results show that for each adopted scales, the correlation coefficients between measurement items and total scores had been found to be really high and thus valid.

#### **4.3. The Model: Propensity Scores Matching**

Since in observational studies assignment of subjects to the treatment and control groups is not random, the estimation of the effect of a treatment condition may be biased by the existence of confounding factors. Propensity score matching is a way to “correct” the estimation of treatment effects by controlling for the existence of these confounding factors based on the logic that the bias is reduced when the comparison of outcomes is performed using treated and control subjects who are as similar as possible. Propensity score matching is a tool for causal inference in non-randomized studies that allows for conditioning on a large set of selected covariates and thus to create balance between the treated and control group. Specifically, in observational studies, the problem of causal inference is how to estimate treatment effects (i.e. being exposed to WOM referral) in which a group of units is exposed to a well-defined treatment, but unlike an experiment, no systematic methods of experimental design are used to maintain a control groups (i.e. participants not exposed to WOM referral). Indeed, it is well-recognized in the literature that the estimate of a causal effect obtained by comparing a treatment group with a non-experimental comparison group could be biased because of problem such as self-selection or some systematic judgement by the research in selecting units to be assigned to the treatment group. The logic behind propensity score methods is that balance on observed covariates is achieved through careful matching on a single score – the estimated propensity of selecting the treatment, or simply the propensity score. This propensity score is defined as the probability of receiving treatment (i.e. being exposed to WOM referral) based on a set of measured covariates:

$$E(x) = P(Z = 1 | X)$$

Where  $E(x)$  is the abbreviation for propensity score,  $P$  a probability,  $Z=1$  a treatment indicator with values 0 for control and 1 for treatment, the “|” symbol stands for conditional on, and  $X$  is a set of observed covariates. In other words, the propensity score determines how likely a respondent is to select the treatment condition given observed covariates. This score is valuable since it is used to match participants from the treatment condition to participants from the control condition who

have a very similar estimated propensity score. The goal is to approximate a random experiment, eliminating many of the problems that comes with observational data analysis. Moreover, this matching process generates balance on the covariates that were used to estimate the propensity score. Precisely, the propensity score matching consists of several analytical steps. Firstly, as the credibility of the propensity score analysis hinges on the selection of proper covariates, this step is of critical importance in order to obtain an adequate propensity score. The theoretical literature emphasizes that including variables only weakly related to treatment assignment usually reduces bias more than it will increase variance (Rubin and Thomas 1996), and so most believe that all available variables should always be included. Indeed, covariates not included in the model may systematically vary between groups and therefore lead to biased estimates and a lack of internal validity (Steiner et al., 2011). In our case, eight variables have been used in the calculation of the propensity score matching:

- |                             |                         |
|-----------------------------|-------------------------|
| - <i>Education Level</i>    | - <i>Current Status</i> |
| - <i>Opinion Seeking</i>    | - <i>Frequency</i>      |
| - <i>Opinion Leadership</i> | - <i>Age</i>            |
| - <i>Liking Theater</i>     | - <i>Gender</i>         |

Based on this set of covariates the propensity score has been estimated. We used logistic regression in which the treatment assignment (i.e. being exposed to WOM referral) is used as the outcome variable, and the selected covariates as predictors. After the estimation of the propensity score, the matching procedure was performed using the 1:1 nearest neighbor matching (NN), meaning that a single treated participants is matched to a single untreated participant who has the most similar estimated propensity score. In conclusion we computed the Average treatment effect on the treated (ATT) in order to assess the effect of being exposed to WOM referral on customer referral value and analyze whether it is different from the referral value of customers not exposed to WOM referral.

#### **4.3.1. Accounting for Endogeneity Bias**

In addition to the nonequivalence of distribution between the control and treated groups, another severe error that prevents researchers from calculating unbiased causal effects is endogeneity or self-selection bias. Endogeneity means that an explanatory variable correlates with the disturbance term of the regression equation and not accounting for it will likely result in biased parameter estimates that undermine the validity of the findings obtained from regression-type analyses of observational data.

This is a crucial problem in survey-based empirical research on marketing strategy and if not addressed, it can cause researchers to arrive at flawed and inconsistent conclusions and to offer poor advice to practitioners.

Many academic studies have explored the impact of WOM referral exposure on WOM referral value, analyzing the flow of information, but the majority of these research do not take into account the possibility of self-selection or endogeneity bias. In distinction to previous research, this study takes into account the endogenous process by which customers select themselves into being exposed to WOM referrals. Specifically, we presume that the effects of WOM referral exposure are likely to be driven by endogenous selection on unobservable. We suppose that two types of endogeneity are likely to occur. First, some customers may be more likely to share their consumption experiences while concomitantly being more inclined to seek social contact. For example, opinion leadership are likely to share their movie experiences since they receive gratification and self-enhancement by sharing positive consumption experiences. Moreover, opinion leadership are likely to be more engaged with the product/service category. These type of customers really like to talk about movies and often influence people's opinions about popular movies, thus stimulating the flow of relevant information. Opinion seekers as well, depending on the level of satisfaction with the movie consumption experience could be more motivated to share their movie consumptions experiences while being more inclined to seek information and new suggestions in the marketplace.

The propensity score matching technique controls for this, since the matching process creates balance between treated and untreated participants on the propensity score and is expected to create balance on the covariates that were used to estimate the propensity score. This balance property is a determinant aspect of propensity score method because a balanced pre-test covariate cannot be a confounder anymore (i.e. cannot bias the treatment effect estimate). The balance that a

randomized experiment is expected to create by design is achieved in this case through statistical matching. Below we report the results from the propensity score matching technique.

#### **4.3.2. Results from Propensity Score Matching**

The propensity score matching technique has been performed using the open-source software R by installing the MatchIt package, which easily enables R users to conduct the propensity score matching calculation. In order to determine the effect of being exposed to WOM referral program versus no-being exposed to WOM referral programs on the dependent variable (Customer referral value), the following steps have been performed:

- Estimate the propensity score (the probability of being treated given the set of pre-treatment covariates).
- Examine the region of common support.
- Execute the matching algorithm.
- Examine covariates balance after matching.
- Estimation of the treatment effect (ATT)

Before the implementation of the matching method, two preliminary analysis were conducted using the non-matched data. Firstly, we examined the difference-in-means between the treated and control group on the outcome variable and the differences in means between the groups on the pre-treatment covariates. The outcome variable, customer referral value was not standardized. An independent t-test has been performed to test whether there was a statistically significant difference between the means of the two unrelated groups. The independent t-test assumes the variances of the two groups to be equal in the population. We tested this assumption using Levene's Test of Equality of Variances, resulting in an  $F(1, 115)$  value equal to 21.8 and a  $p\text{-value} < 0.001$ . From the result of Leven's test for Equality of Variances, we can reject the null hypothesis that there is no difference in the variances between the groups and conclude that there is a statistically significant difference in the variances. Considering the result from Leven's test, we take into

account the non-homogeneity of variance between groups, and report the result from the Welch's test, or unequal variances t-test,  $t(104.58) = -1.368$ ,  $p\text{-value} = .174$ . Therefore, we do not reject the null hypothesis and accept that there is no statistically significant differences between the means in the two groups.

Secondly, we analyze the differences in means for each selected covariate. We use boxplots, in order to get as much insights as possible about the distributions of each covariate in the control and treatment group (boxplots are reported in Appendix, figure 11). No significant differences were found, except for the *Opinion seeker* and *Opinion leadership* covariates. However, we expect these differences in means to be the result of the self-selection mechanism at work.

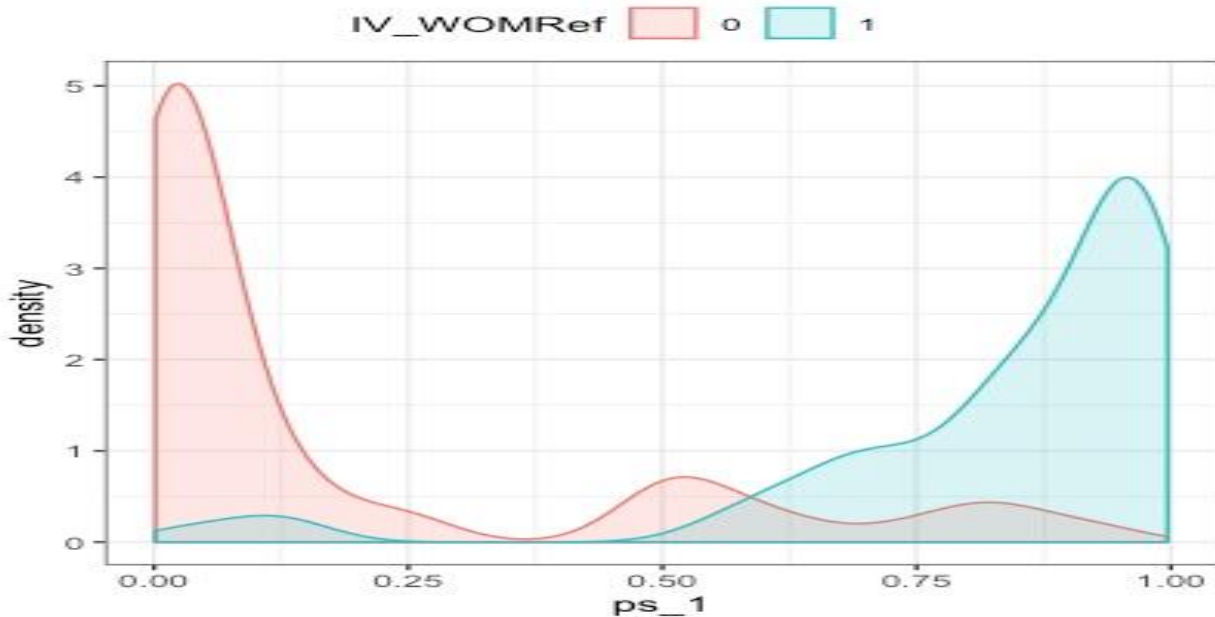
In the next step, we estimated the propensity score by running a logit model where the outcome variable is a binary variable indicating treatment status (i.e. being exposed to WOM referral). The set of covariates included in the calculation has been specified in the previous paragraph and is composed of eight covariates. Using the logit model, we were able to calculate the propensity score for each participants. This is simply the respondent's predicted probability of being treated, given the estimates from the logit model. The creation of the propensity score is based upon the concept of the counterfactual, meaning that scores are calculated for all respondents, by predicting the probability of being exposed to WOM referral, regardless of whether respondents were effectively exposed to WOM referral.

After the estimation of the propensity scores we proceed the analysis by examining the area of common support. The extent to which participants assigned to the treatment group and control group overlap in their distribution of propensity scores is referred to in the propensity score matching literature as the area of "common support" (Caliendo & Kopeining 2005; Stuart 2010). A lack of common support may lead to a loss of information, because individuals who are qualitatively different across groups might be excluded from the analyses considering the inability to find appropriate matches. Moreover, in situation where the average treatment effect on the treated (ATT) is of interest, like in this research, common support is needed to ensure that the estimation of treatment effects is reliable and representative of the group.

Figure 1 shows the area of common support across propensity score distribution (ranging from 0 to 1). For low values of the propensity scores, the densities of the control group are always higher than those of the treatment group. When it comes to the higher values of the propensity score, the

densities of the treatment group start to increase considerably, whereas the densities of the control group decrease drastically.

*Figure 1: Region of Common Support*



As can be seen in Figure 1, most of the propensity scores values show high densities for the control group at values lower than .025, while the densities of the propensity scores value for the treatment group start increasing after .50. We calculated the percentage of respondents included at values of the propensity score lower than .05 and at values higher of .95. The analysis shows that respectively 30% and 17% of the respondents were included in these two areas.

Once propensity scores are computed there are many matching methods that can be used to perform the match. We chose the nearest neighbor method (NN) because it resulted in the lowest mean differences between groups. The NN design employs a greedy algorithm that matches each individual in the treatment condition sequentially with the nearest possible individual in the control group. Thus, with this method the absolute difference between the estimated propensity scores for the control and treatment groups has been minimized.

However, we also examined the nearest neighbor matching with calipers, to compare the matching quality and select the best one. When calipers are applied to nearest neighbor matching, treatment group members are only matched to members in the control group if the propensity scores are within the researcher-specified caliper distance. Two caliper distances were applied: 0.2 and 0.5.



The output of the matching using nearest neighbor without caliper have been found to produce the best results. The corresponding values for the propensity scores has been saved in a variable called *ps\_1*. Table 8 shows the descriptive statistics for the propensity score values. As can be seen in table 9, in total 112 respondents were matched, 56 from the control group and 56 from the treatment group, and only 5 respondent were unmatched. Overall, no respondents were discarded from the analysis.

*Table 9: Results from Nearest Neighbor Matching*

	Control (0)	Treated (1)
<i>All</i>	56	61
<i>Matched</i>	56	56
<i>Matched (Unweighted)</i>	56	56
<i>Unmatched</i>	0	5
<i>Discarded</i>	0	0

*Table 8: Descriptive Statistics - Propensity score values (ps\_1)*

Descriptives	ps_1
N	117
Missing	0
Mean	0.521
Median	0.678
Variance	0.167
Range	0.996
Minimum	0.00131
Maximum	0.997
25th percentile	0.0357
50th percentile	0.678
75th percentile	0.932

According to the relevant literature, after matching is completed, a series of model adequacy checks should be performed. The aim of this analysis was to check whether balance on the covariates has truly been achieved through the matching procedure, thus appraising the accuracy of the matching procedure. Stuart (2010) advised comparing the covariates balance (i.e. balance of propensity scores) by comparing the ratio of variances between treatment and control group on the propensity score on each individual covariate. This means that the standardized mean difference of covariates should be close to 0 after matching, and the variance ratio should be close to 1. All selected covariates respected this criteria. According to Ho et., al (2007) a researcher should also compare the mean of both groups on each covariate to determine whether the groups differ on any of the individual covariates to a degree greater than one-fourth of the standard deviation. Moreover, the means for the control and treatment groups in Table 10, indicate that we

have attained a high degree of balance on the eight covariates included in the model. As expected, the adjusted mean differences of covariates are close to 0 (except for *Opinion Seeking and Opinion Leadership*), resulting in an overall good balance of the covariates in the treatment and control group.

*Table 10: Covariates Balance Table*

	Mean Control	SD. Control	Mean Treatment	SD. Treatment	Diff. Adj
<i>Opinion Leader</i>	5.26	1.27	3.61	1.57	-1.11
<i>Opinion Seeking</i>	2.98	1.36	5.76	..90	3.04
<i>Frequency</i>	2.62	.48	2.68	.76	.04
<i>Education Level</i>	3.07	.82	3.27	.91	.21
<i>Current Status</i>	3.01	1.28	2.68	1.36	-.22
<i>Age</i>	24.28	3.67	25.44	4.84	-.26
<i>Gender</i>	0.51	.49	0.49	.505	.14
<i>Liking Theater</i>	4.12	1.14	3.72	1.27	-.33

After the matching generated treated and control groups with adequate covariates balance, we move on to the outcome analysis stage. When each treated individual has received a match from the control group, the outcome analysis proceeds using the matched samples, composed of 112 respondents, as if this sample had been generated through randomization. The goal in this stage is to estimate the treatment effects for only the individuals in the treatment groups, the so called average treatment effect on the treated (ATT). To calculate ATT, the impact of the treatment effect (i.e. being exposed to WOM referral on customer referral value) has been estimated only for the respondents who are assigned to the treatment group. Specifically, the average treatment effect (T) is the expected value of the outcome ( $Y_i$ ) for the treated [ $Y_i(1)$ ] minus the observed value of the outcome [ $Y_i(0)$ ] for the untreated conditional upon the covariates ( $X_i$ ).

An independent sample t-test was conducted in order to compare customer referral value in the treatment group, (i.e. being exposed to WOM referral) and the control group (i.e. not being exposed to WOM referral). There was a not significant difference between the two conditions,  $t(115) = -1.289$ ,  $p\text{-value} = 0.197$ . Thus, the null hypothesis was not rejected. These results suggest that being exposed to WOM referral does not influence the customer referral value. Results show a negative and indistinguishable from zero confidence interval ranging from [CI: -0.44, 0.09] with a corresponding effect size equal to 0.173. Results show that customers exposed to WOM referral did not show a higher customer referral value compared to customers who were not exposed to WOM referral.

Once the matching has been completed, in order to do follow up statistical analysis and the moderation-mediation analysis while controlling for endogeneity bias, we created a new dataset with only the matched cases composed of 112 respondents.

#### **4.4. Moderated - Mediation Analysis**

According to the mediation literature, the total effect of exposure to WOM referrals on WOM referral value has been firstly decomposed in an indirect (mediation) effect and a direct effect (Preacher et al., 2007; Zhao et al., 2010). The total effect informs us whether customers exposed to referrals differ in their referral value from the customers not exposed to WOM referrals, while the indirect effect allows to test whether the level of satisfaction mediates the relationship between receiving and giving WOM referrals.

We report these effect for three values of the moderating variable: a low value equal to the mean minus one standard deviations (weakest tie), the mean value, and a high value equal to the mean plus one standard deviations (strongest tie). We report the 95% bootstrapped (10.000 iterations) confidence intervals (CI) around these effects (Preacher et al. 2007; Zhao et al. 2010).

In order to analyze all three theorized hypothesis in SPSS, this research made use of the PROCESS macro developed by Hayes (2013). The macro was downloaded and installed into SPSS. The analysis resulted in simple mediation, simple moderation and conditional indirect effect analyses using model 4 and model 7 of the PROCESS macro. First, to analyze Hypothesis 1 and Hypothesis 3, WOM referral value was placed in in the Outcome Variable (Y) box, WOM referral exposure was placed in in the Independent variable (X) box, and the mediator, customer satisfaction was entered in the (M) box using model number 4. Next to analyze Hypothesis 2, the moderator tie strength was added into the proposed moderator W box using model 7. This model provides insights in the conditional indirect effect at different values of the proposed moderator. This is very useful for the analysis, since it allows us to analyze the indirect effect at different values of the moderator, thus examining how much the strength of the relationship between the referrer and the referred customer influences the relationship between WOM referral exposure and customer satisfaction.

#### **4.4.1. Results from Mediation Analysis**

In order to get a better perception of the data under study, an insight has been gained in the number of participants, means, standard deviation, minimum scores, maximum scores and correlations among all predictors and control variables used in this study. The descriptive statistics are shown in table 11. Moreover, in order to examine whether the variables are correlated a correlation matrix based on a Pearson Correlation analysis is presented in table 12.

Table 11: Descriptive Statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
<i>WOM referral exposure</i>	117	0	1	.52	.502
<i>DV_CRV</i>	117	1	3.70	2.52	.776
<i>Satisfaction</i>	117	1	7.00	4.82	1.669
<i>Tie strength</i>	61	1.50	7.00	5.25	1.616
<i>Opinion Seeking</i>	117	1.33	7.00	4.43	1.804
<i>Opinion Leadership</i>	117	2.00	7.00	4.40	1.652

Table 12: Pearson Correlation Analysis

Predictor Variables	1	2	3	4	5	6
1. <i>WOM_Referral Exposure (IV)</i>	1					
2. <i>DV_CRV</i>	- 0.124	1				
3. <i>Tie Strength</i>	#	0.890**	1			
4. <i>Satisfaction</i>	- 0.241**	0.901**	0.916**	1		
5. <i>Opinion Seeking</i>	0.774**	-0.178	-0.231	-0.111	1	
6. <i>Opinion Leadership</i>	-0.501**	0.223**	0.196	0.252**	-0.512**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed)

When looking at the main antecedents of this study, it can be noticed that there are some interesting and significant associations in the model. Results from Pearson correlation analysis indicated that there was a significant and negative association between the independent variable, WOM referral exposure and customer satisfaction ( $r(117) = -0.241$ ,  $p\text{-value} = .009$ ). As expected, the correlation between WOM referral exposure and Opinion Seeking, was found to be positive and significant ( $r(117) = 0.774$ ,  $p\text{-value} = .001$ ), while the correlation between Opinion Leadership and WOM referral exposure was found to be negative and significant ( $r(117) = -0.50$ ,  $p\text{-value} = .001$ ). We also discovered a positive and significant correlation between the dependent variable, customer referral value (CRV), and customer satisfaction ( $r(117) = 0.90$ ,  $p\text{-value} = .001$ ), meaning that satisfied customers use to refer the movie to more people compared to dissatisfied customers. As expected, a positive and significant correlation was found between CRV, and the Opinion Leadership variable ( $r(117) = 0.227$ ,  $p\text{-value} = .017$ ). Interestingly, the moderator tie strength, strongly correlates with the mediator customer satisfaction ( $r(117) = 0.916$ ,  $p\text{-value} = .001$ ). Concurrently, the moderator shows a positive and significant correlation with the dependent variable customer referral value ( $r(117) = 0.89$ ,  $p\text{-value} = .001$ ). Overall, these significant associations resulted from the Pearson correlation analysis, seem to support our initial predictions about the model.

In the next paragraph we proceed with the moderated-mediation analysis in order to test our three developed hypotheses. Firstly, we conducted the moderated-mediation analysis on the overall sample and then separately for the Italian and Dutch sample with the aim to compare the results obtained in the two subsamples.

#### **4.4.2. Simple Mediation Analysis**

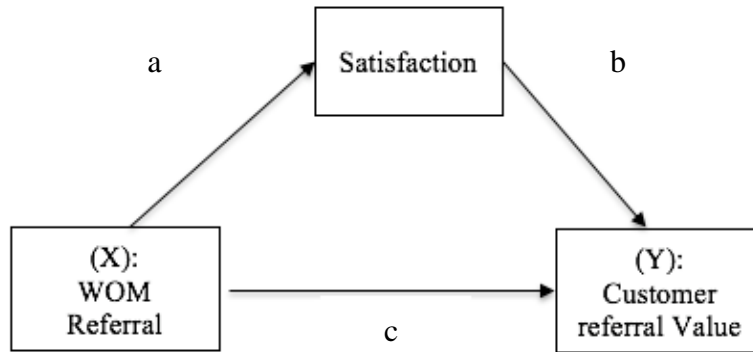
Simple mediation analysis was used to estimate and test hypotheses about the paths of causal inference from WOM referral exposure to customer referral value, taking into account the influence of customer satisfaction. In order to calculate the direct and indirect effect of this simple mediation, Model 4 in the PROCESS macro of Hayes (2013) was used. As previously explained, in order to account for the endogeneity bias, the 5 unmatched participants resulted from the propensity score analysis were excluded. Thus the overall sample for the moderated-mediation analysis accounting for endogeneity bias was composed of 112 participants.

The adopted approach in probing mediation was the Baron and Kenny approach (Kenny 2008). The basic principle of the causal steps approach is that it does not test the indirect effect itself, but logically infer mediation from testing all paths of the model separately.

Note that both the conceptual model (figure 1 in Appendix) and in the statistical model (figure 2) the two covariates (U1: Opinion Seeking and U2: Opinion Leadership) are not depicted. The path diagram, of the simple mediation analysis represents two linear equations:

- $M = im + a1 X + a4 U1 + a5 U2 + em$
- $Y = iy + c' X + \beta1 M + \beta2 U1 + \beta3 U2 + ey$

*Figure 2: Direct and Indirect effect of WOM referral Exposure on CRV*



Multiple regression analysis was conducted to assess each component of the proposed mediation model. The results indicate the association between WOM referral exposure (IV) and Customer referral value (c-path), the effect of WOM referral exposure on customer satisfaction (a-path), the association between customer satisfaction and the dependent variable (b-path) and the association between WOM referral exposure and customer referral value, taking into account the role of the mediator, customer satisfaction (c'-path).

Initially, table 13 shows that the total effect of WOM referral exposure was negatively associated with customer referral value ( $\beta = -.332$   $t(108) = -1.44$ ,  $p = .1521$ ). The total effect model was significant and explained 27% of the variance on the dependent variable ( $F(1,108) = 3.94$ ,  $p\text{-value} = .0352$ ).

As expected, results reveal that WOM referral exposure was negatively associated with customer satisfaction ( $\beta = -1.07$   $t(108) = -2.28$ ,  $p = .0242$ ). By means of this first analysis it can be concluded that hypothesis 1 was confirmed, since customers exposed to WOM referral program, are on average, less satisfied with their movie consumption experience, than customers not exposed to WOM referral programs.

Indeed, as figure 3 illustrates, the standardize regression coefficient between WOM referral exposure and customer satisfaction (a-path) was negative and statistically significant ( $\beta = -1.07$ ,  $t(108) = -2.29$ ,  $p = .0242$ ) while the standardize regression coefficient between customer satisfaction and the dependent variable (b-path) customer referral value was positive and significant ( $\beta = .448$   $t(112) = 21.28$ ,  $p < .0001$ ). Overall, the standardized indirect effect was  $(-1.05) (.43) = -.468$ .

To illustrate, table 15 indicates that the direct effect (c'-path) of the association between WOM referral exposure and customer referral value, when controlling for the mediator, was not significant ( $\beta = .1472$   $t(107) = 1.36$ ,  $p = .1748$ ), suggesting that all of the relationship between X and Y is transmitted through the mediator, customer satisfaction. Moreover, only the covariate Opinion Leadership has been found to have a positive and significant effect on the total effect model ( $\beta = .110$   $t(108) = 2.28$ ,  $p = .0242$ ).

We tested the significance of this indirect effect using bootstrapping procedures. The bootstrap method is a non-parametric resampling test and the main feature of this test is that it does not rely on the assumption of normality, and thus it also fit for smaller sample sizes (Preacher & Hayes 2008).

Unstandardized indirect effects were computed for each of 10.000 bootstrapped samples, and the 95% confidence interval was calculated and ranged from C.I [-.92, -.11].

*Figure 3: Standardize regression coefficient for the relationship between WOM referral exposure and Customer referral value as mediated by customer satisfaction*





Thus, we ascertained that the indirect effect was statistically significant since the confidence interval did not contain 0. Given a significant indirect effect and an insignificant direct effect, we determined that the mediator, customer satisfaction, fully explains the variation of the dependent variable by the independent variable (full mediation). Moreover, as the results of this analysis confirm, customers who are more satisfied with their movie consumption experience have a higher referral value than customers who are less satisfied. On the grounds of this also hypothesis 3, which predicted that customers who are more satisfied with their movie consumption experiences have a higher referral value than customers who are less satisfied, has been confirmed as well.

*Table 13:*  
*Total effect model (N=117)*  
*(DV): Customer Referral Value (CRV)*

	<b>B</b>	<b>SD</b>	<b>T</b>	<b>P</b>
<i>constant</i>	1.60	.383	4.19	.001
<i>WOM referral exp</i>	-.332	.230	-1.44	.152
<i>Opinion seeking</i>	.125	.065	1.91	.058
<i>Opinion leadership</i>	.11	.051	2.28	.024 *

F (1,108) = 3.94, p = .0352, R= .27

*Table 14:*  
*Mediator variable model (N=117)*  
*(DV): Customer Satisfaction*

	<b>B</b>	<b>SD</b>	<b>T</b>	<b>P</b>
<i>constant</i>	3.77	.785	4.82	.000
<i>WOM referral exp</i>	-1.07	.469	-2.28	.0242

<i>Opinion seeking</i>	.025	.133	1.87	.6242
<i>Opinion leadership</i>	.028	.106	1.93	.220

$F(1,108) = 3.94, p = .0103, R = .32$

*Table 15:*

*Dependent Variable model (N=117)*

*(DV): Customer Referral Value (CRV)*

	B	SD	T	P
<i>constant</i>	-.05	.185	-.30	.761
<i>WOM referral exp</i>	.141	.101	1.365	.174
<i>Satisfaction</i>	.441	.021	21.28	.000**
<i>Opinion seeking</i>	.015	.029	.523	.602
<i>Opinion leadership</i>	.028	.023	1.22	.220

$F(1,107) = 124.78, p = .000, R = .90$

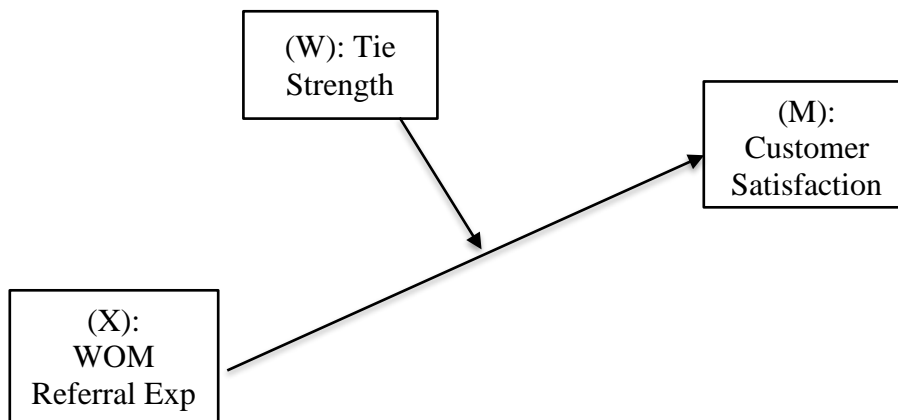
#### 4.4.3. Simple moderation analysis

The proposed Moderated mediation model attempt to explain how and when this specific indirect effect between WOM referral exposure and customer satisfaction occurs. Formally, moderated-mediation takes place when the strength of an indirect effect depends on the level of some variable, or in other words, when mediation relations are contingent on the level of a moderator. As already specified, we generate three point estimates for conditional indirect effects, in order to be able to analyze the effect of the moderator on customer satisfaction, considering three different type of tie strength (weak tie, moderate tie and strong tie). In order to test our hypotheses about these

conditional indirect effects, one approach is to estimate the sampling distribution of the conditional indirect effect nonparametrically through bootstrapping and then use information from the bootstrap sampling distribution to generate CIs for the conditional indirect effect. In this case no assumptions need to be made about the shape of the sampling distribution and no particular formula for the SE is required. Because a conditional indirect effect is merely the product of two causal path estimates conditioned on the value of one or more moderators, bootstrapping can be applied just as readily to the assessment of conditional indirect effects. First stage moderated mediation analysis was used to estimate and test hypotheses about the paths of causal influence from WOM referral exposure on customer satisfaction, through the proposed moderator Tie strength. As already specified, in order to conduct this analysis Model 7 from PROCESS macro was used. Model 7 allows the indirect effect of an independent variable (WOM referral exposure) on a dependent variable (Customer Referral value) through the mediator (customer satisfaction) to be moderated. The path diagram, of the first stage moderated-mediation analysis represents one linear equations:

$$M = im + a_1 X + a_2 W + a_5 XW + em$$

*Figure 4: Indirect effect of WOM Ref exposure on Satisfaction*



Multiple regression analysis were conducted to assess each component of the proposed moderation model. The results are presented in Table 16 and figure 5 and include the association between WOM referral exposure (IV) and customer satisfaction (a-path) and the interaction effect of Tie

strength and WOM referral exposure on customer satisfaction. This model shows the first part of the moderated mediation effect.

*Table 16: Conditional process analysis; Mediator variable model  
(DV): Customer Satisfaction*

	Coeff	SD	T	P-value
<i>Constant</i>	6.31	.667	9.48	.0000
<i>WOM referral</i>	-6.30	.539	- 11.68	.0000**
<i>Tie strength</i>	33.2	12.62	-2.62	.0101*
<i>interaction term</i>	34.2	12.62	2.69	.0081**
<i>Opinion Seeking</i>	-.012	.0896	-.021	.981
<i>Opinion Leadership</i>	.014	.0692	.151	.879

$$F(1, 106) = 38.56, p < .001, R = .80$$

As expected, results from table 15 show that, WOM referral exposure has a negative and significant effect on customer satisfaction ( $\beta = -6.31$   $t(106) = -11.68$ ,  $p < .0001$ ). This means that being exposed to a WOM referral decrease the level of customer satisfaction, since customers' expectation about the movie increase as a result of the received referral.

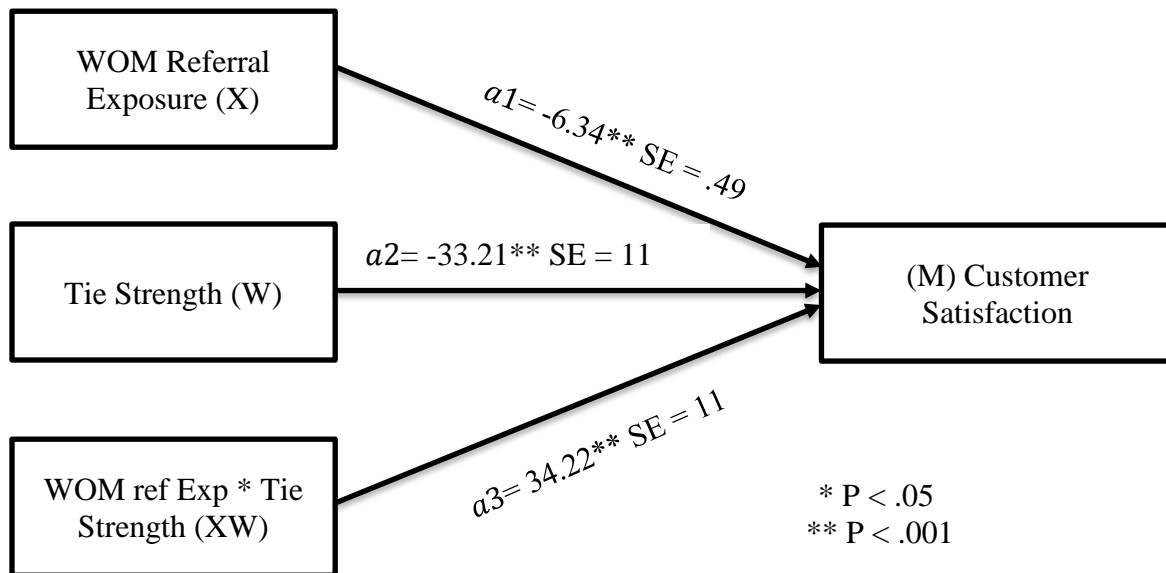
The interaction effect of WOM referral exposure and tie strength on customer satisfaction has been found to be positive and significant ( $\beta = 34.22$   $t(106) = 2.69$ ,  $p = .0081$ ). Thus the moderation effect of tie strength on the relationship between WOM referral exposure and customer satisfaction was established. Moreover, results suggested that the moderator, was negatively associated with customer satisfaction with a significant effect ( $\beta = -33.2$   $t(106) = -2.62$ ,  $p < .0101$ ).

This leads to the following equation:

$$\text{Satisfaction (M)} = 6.36 - 6.34 - 33.21 (\text{Tie strength}) + 34.22 (\text{WOM ref} * \text{Tie strength}) - .012 (\text{Opinion Seeking}) + .014 (\text{Opinion Leadership})$$

Overall the model explain 80% of the variance in customer satisfaction, with an  $F(1, 108) = 65.46$  and a p-value equal to .0001. In figure 5 a complete model can be found, which clearly summarizes the associations and the corresponding coefficients of the moderation analysis.

*Figure 5: Coefficients from Moderation analysis*



#### 4.4.4. Results from moderated-mediation analysis

In order to test the association between WOM referral exposures on customer referral value through customer satisfaction, moderated by tie strength in more detail, the model generated bias corrected 95% bootstrap confidence intervals for the indirect effects using 10000 bootstrap sample.

Notably, the confidence intervals surrounding the indirect effect of Tie strength did not span zero, which indicates that a significant indirect effect has been found at low, moderate and high levels of the moderator (Table 17).

*Table 17:*

*Conditional indirect effect of WOM ref exposure on CRV through Satisfaction at value of Tie strength*

	<i>Effect</i>	<i>SD</i>	<i>T</i>	<i>P</i>	<i>BootLLCI</i>	<i>BootULCI</i>
Low level: <i>Weak tie</i>	-5.96	.489	-12.20	.0000	-6.938	-4.998
Moderate level	83.5	33.01	2.52	.0129	18.05	148.97
High level: <i>Strong tie</i>	175.3	67.05	2.61	.0102	42.42	308.32

Since zero is not present in the confidence intervals, the results clearly show evidence of conditional indirect effect to be different from zero with 95% confidence interval.

Specifically for low value of the moderator, equal to the mean minus one standard deviation, the effect was negative and equal to -5.96, while for the moderate level of the moderator the effect became positive and equal to 83.51. Lastly, for the high value of the moderator, the effect became even bigger reaching a value equal to 175.3. Therefore, this leads us to confirm Hypothesis 2 which predicted that the degree to which a referral's recipient receives referrals from a strong tie moderate the relationship between the exposure to WOM referrals and satisfaction, in that customers who receive referrals from a strong tie are more satisfied with the product/service consumption experience than customers who receive referrals from a weak tie. This means that the degree to which a referral's recipient receives referrals from a strong tie (i.e. family member, Partner) strongly moderate his/her level of satisfaction with the movie consumption experience. Indeed, customers who received a referral from a strong tie, show a higher level of satisfaction with their movie consumption experience, than customers who received the movie referral from a weak tie (i.e. strangers, acquaintances).

The results of this analysis leads to the following conclusion on the developed hypotheses:

H1: <i>Customers exposed to WOM referrals are, on average, less satisfied with their product or service consumption experience than customers not exposed to WOM referrals.</i>	<i>Confirmed</i>
H2: <i>The degree to which a referral's recipient receives referrals from a strong tie moderate the relationship between the exposure to WOM referrals and satisfaction, in that customers who receive referrals from a strong tie are more satisfied with the product or service consumption experience than customers who receive referrals from a weak tie.</i>	<i>Confirmed</i>
H3: <i>Customers who are more satisfied with a product or service consumption experience have a higher referral value than customers who are less satisfied.</i>	<i>Confirmed</i>

#### **4.5. Cross-national comparison between Tilburg and Rome sample**

In order to proceed the analysis with cross-national comparison between the respondents in Tilburg and in Rome, we divided the dataset composed of 112 respondents in two sub-samples taking into account the country of the respondents. Precisely, 71 respondents (38 male and 33 female) answered the questionnaire in Tilburg while the remaining 41 (22 male and 19 female) answered the questionnaire in Rome. Respectively, 41 respondents were exposed to WOM referral in the Netherlands while only 20 confirmed to have been exposed to a referral program in Italy.

The average age in the Italian sample has been found to be 24 years old, while in the Dutch sample the average age was 26 years old.

A moderation-mediation analysis was conducted in both samples, in order to gather insights into the WOM diffusion process in two different cultural context, characterize by different social values and norms.

#### 4.5.1. Moderation-mediation analysis on the Italian sample

In total, the Italian sample was composed by 41 respondents, 22 male and 19 female, and the average age in the sample was 24 years old. Most of the respondents were students, 24 but there were also 15 full-time employer and 2 unemployed. Among the Italian participants, 20 affirmed to have been exposed to WOM referral before the movie consumption experience, while the remaining 21 were not exposed to any type of movie referral. Among those who reported to have been exposed to WOM referral, 6 received the referral from friends, 3 from a family member, 5 from partner, 4 from an acquaintance and 2 from strangers. Moreover, the most preferred movie genre was comedy, with 85% of respondents designating it as the best genres to watch at the movie theater. The most viewed movie in the sample was “Arrivederci Professore”, directed by Wayne Roberts and Johnny Depp.

As in the original analysis, in order to test hypotheses on the Italian sample we used the PROCESS macro on SPSS. Specifically, model 4, simple mediation, was used to analyze the mediation role of customer satisfaction in the relationship between WOM referral exposure and customer referral value. First, to analyze Hypothesis 1 and Hypothesis 3, WOM referral value was put in the Outcome Variable (Y) box, WOM referral exposure was put in the Independent variable (X) box, and the mediator, customer satisfaction was put in the mediator (M) box using model number 4. Next to analyze Hypothesis 2, Tie Strength was added into the Proposed Moderator W box using model 7.

Initially, table 18 shows that the total effect of WOM referral exposure was negatively associated with customer referral value ( $\beta = -.236$   $t(37) = .803$ ,  $p = .4266$ ). The total effect model was significant and explained 46% of the variance on the dependent variable ( $F(1, 37) = 3.48$ ,  $p\text{-value} = .0253$ ).

Moreover, as can be seen in table 19, results from mediation analysis show that the a-path from WOM referral exposure to customer satisfaction was negative and not significant ( $\beta = -.44$   $t(37) = -.842$ ,  $p < .4051$ ) while the b-path (Table 20) from customer satisfaction to the dependent variable customer referral value has been found to be positive and significant ( $\beta = .486$   $t(38) = 9.97$ ,  $p < .001$ ). Overall the standardized indirect effect was equal to  $(-.23)(.48) = -.2124$  and has been found to be significant since the bootstrapped confidence interval did not contain 0, ranging from C.I [-.75, -.09]. Furthermore, results show that the direct effect of WOM referral exposure on Customer



referral value while accounting for customer satisfaction was negative and not significant ( $\beta = -.02$   $t(38) = .155$ ,  $p < .8770$ ). Thus, according with the mediation literature, we concluded that for the Italian sample the relationship between WOM referral exposure and customer referral value, is fully mediate by customer satisfaction. By means of this analysis, hypothesis 1 which predicted that customer exposed to WOM referral are, on average, less satisfied with their movie consumption experience than customers not exposed to WOM referrals, was confirmed. Concurrently, also Hypothesis 3 which anticipated that customers who are more satisfied with their movie consumption experience have a higher referral value than customers who are less satisfied was confirmed.

Overall, considering the mediation analysis, no particular differences were discovered between the Italian sample analysis and the overall sample analysis.

*Table 19:*

*Mediator variable model (Italian sample)*

*(DV): Customer Satisfaction*

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	3.77	.866	4.36	.0001
<i>WOM Referral exposure (a-path)</i>	-.443	.526	-.842	.4051
<i>Opinion Seeking</i>	-.044	.142	-.310	.7582
<i>Opinion Leadership</i>	.407	.124	3.27	.0023

$F(1, 37) = 4.46$ ,  $P = .008$ ,  $R = .52$

Table 20:

*Dependent Variable model (Italian sample)*

**(DV): Customer referral Value**

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	-.055	.311	-.783	.438
<i>WOM Referral exposure</i>	.079	.155	.155	.877
<i>Satisfaction (b-path)</i>	.486	.048	9.97	.000
<i>Opinion Seeking</i>	.041	.041	1.01	.323
<i>Opinion Leadership</i>	.018	.041	.441	.662

F (1, 36) =34.42, P=.0002, R=.89

Table 18:

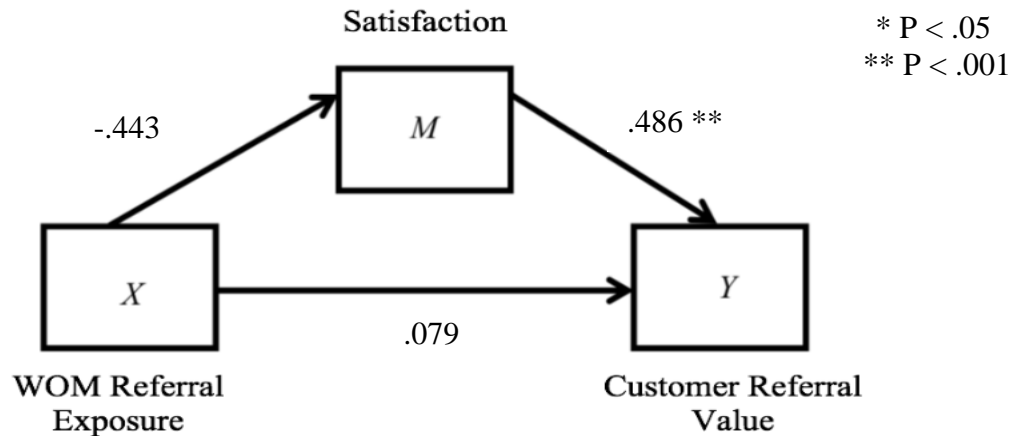
*Total effect model (Italian sample)*

**(DV): Customer referral Value**

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	1.56	.484	3.23	.0026
<i>WOM Referral exposure</i>	-.236	.294	-.803	.4266
<i>Opinion Seeking</i>	.021	.079	.258	.7975
<i>Opinion Leadership</i>	.213	.069	3.06	.0041

F (1, 37) =3.48, P=.0253, R=.46

*Figure 6: Standardize regression coefficient for the relationship between WOM referral exposure and Customer referral value as mediated by customer satisfaction (Italian sample)*



Equally to the initial analysis on the overall sample, after the mediation role of customer satisfaction was established, we proceeded the analysis on the Dutch sample by examining the role of the moderator tie strength in the association between WOM referral exposure and customer satisfaction. In order to accomplish this, first stage moderation mediation analysis was used to estimate and test hypotheses about the paths of causal influence between the variables. As already specified, in order to conduct this analysis Model 7 from PROCESS macro was used. Specifically, we expected the proposed moderator tie strength to alter the relationship between the independent variable and the mediator (first-stage moderated mediation).

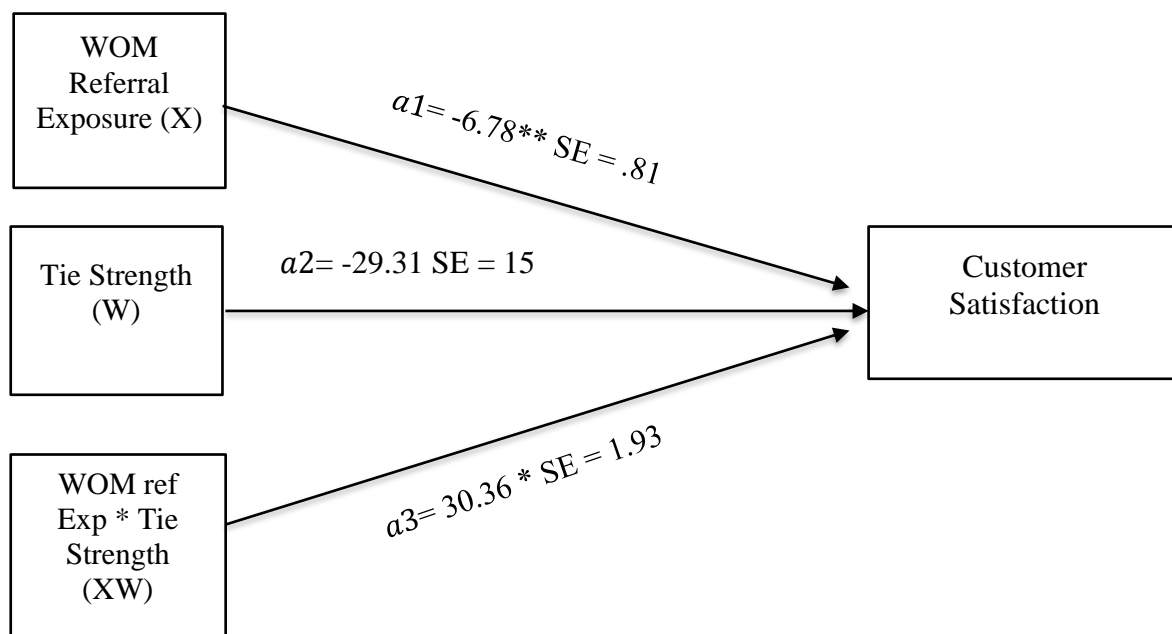
The results are presented in Table 21 and figure 6 and involve the association between WOM referral exposure (IV) and customer satisfaction (a-path) and the effect of the interaction term between tie strength and WOM referral exposure on customer satisfaction. The model in table 21 shows the first part of the moderated mediation effect.

*Table 8: Conditional process analysis; Mediator variable model (Italian Sample)*  
*(DV): Customer Satisfaction*

	Coeff	SD	T	P-value
<i>Constant</i>	6.54	.43	15.02	.0000
<i>WOM referral</i>	-6.78	.81	- 8.28	.0000
<i>Tie strength</i>	-29.31	15.66	-1.78	.0693
<i>interaction term</i>	30.36	15.66	1.93	.0403

$F(1, 37) = 25.03, P = .000, R = .81$

*Figure 7: Coefficients from Moderation Analysis (Italian sample)*



As can be seen in Figure 7 and table 21, the interaction effect of WOM referral exposure and Tie strength on customer satisfaction has been found to be positive and significant ( $\beta = 30.36$   $t(37) = -2.86$ ,  $p = .040$ ). Thus, considering the results, the moderation effect of tie strength in the association between WOM referral exposure and customer satisfaction was proven. Moreover, results indicated that the moderator, was negatively associated with customer satisfaction with a not significant effect ( $\beta = -29.21$   $t(37) = -1.78$ ,  $p = .0693$ ), which can also be seen in table 21. This leads to the following equation of customer satisfaction for the Italian sample:

$$\text{Satisfaction (M)} = 6.54 - 6.78 (\text{WOM ref}) - 29.31 (\text{Tie strength}) + 30.36 (\text{WOM ref} * \text{Tie strength}) + .021 (\text{Opinion Seeking}) + .21 (\text{Opinion Leadership})$$

In order to test in detail the significance of the association between WOM referral exposure on customer referral value (CRV) through customer satisfaction, moderated by tie strength, the model generated bias corrected 95% bootstrap confidence intervals for the indirect effects using 10.000 bootstrap sample. As can be seen in table 22, for the three values of the moderator, low value, mean value and high value, the 10.000 bootstrapped confidence intervals reveal that the conditional indirect effect for the lowest level of the moderator level (weak ties) to be negative and significant, precisely equal to -5.79. For the moderate value of the moderator, the effect has been found to be positive but not significant equal to 84.2. As expected, for high value of the moderator (strong ties) the effect has been found to be highly positive and significant, 183.9. The confidence intervals of these effects are reported in table 22. By means of this analysis it is clear that the type of relationship between the referral and the recipient of the referral makes a big difference in the level of customer satisfaction for the Italian sample respondents. Specifically, when the relationship between the referrer and the referred customer is very strong, the referred customer feels more satisfied with his/her consumption experience than a referred customer who received a referral from someone who is not considered to be a strong tie (i.e. strangers, acquaintances). Thus, we found enough evidence to confirm Hypothesis 2, which predicted that customers who receive referrals from a strong tie are more satisfied with their movie consumption experience than customers who receive referrals from a weak tie. In table 23, we reported the index of moderated mediation, which corresponds to a value equal to 14.76 with a confidence interval ranging from C.I [2.74, 26.02].

*Table 9: Conditional indirect effect of WOM ref exposure on CRV through Satisfaction at value of Tie strength (Italian Sample)*

	<i>Effect</i>	<i>SD</i>	<i>T</i>	<i>P</i>	<i>BootLLCI</i>	<i>BootULCI</i>
Low level: <i>Weak tie</i>	-5.79	.814	-7.11	.0000	-7.44	-4.14
Moderate level	84.2	.421	1.99	.0423	-1.38	169.6
High level: <i>Strong tie</i>	183.9	89.1	2.06	.0425	3.04	364.9

*Table 10: Index of moderated mediation (Italian sample)*

	<i>Index</i>	<i>BootSE</i>	<i>BootLLCI</i>	<i>BootULCI</i>
Tie Strength	14.76	5.785	2.741	26.027

#### **4.5.2. Moderation - mediation analysis on the Dutch sample**

The same type of analysis was performed on the Dutch sample, composed of 71 respondents (38 Female and 33 Male). The average age in this sample was 26 years old. The analysis of the sample descriptive statistics revealed that most of the respondents were students 44, while 20 respondents were full-time employer, 6 part-time employer and there was only 1 unemployed respondent. Among the Dutch participants, precisely 30 reported to have been exposed to WOM referral before the movie consumptions experience while the remaining 41 were not exposed to any type of movie referral. Between those who indicated to have been exposed to WOM referral, 18 received the referral face-to-face, 3 on social-network, 5 via phone, and 4 via e-mail. Moreover, 13 respondents received the referral from friends, 5 from an acquaintance, 4 from partner, 5 from strangers, and 3

from colleagues. The most preferred movie genres among the respondents was Action, with 75% participants indicating it as the best movie genre to watch at the movie theater. In conclusion, the most viewed movie was “Aladdin”, produced by Walt Disney Pictures.

Similarly to the analysis on the Italian sample, in order to test our hypothesis on the Dutch sample we used the PROCESS macro on SPSS. Specifically, model 4, simple mediation, was used to analyze the role of customer satisfaction in the relationship between WOM referral exposure and customer referral value. First, to analyze Hypothesis 1 and Hypothesis 3, WOM referral value was entered in the Outcome Variable (Y) box, WOM referral exposure in the Independent variable (X) box, and the mediator, customer satisfaction was entered in the (M) box using model number 4. Next to analyze Hypothesis 2, the variable tie strength was added into the Proposed Moderator W box using model 7. Initially, table 24 shows that the total effect of WOM referral exposure was negatively associated with customer referral value ( $\beta = -.646$   $t(67) = 1.84$ ,  $p = .0694$ ). However, the total effect model was not significant and explained only 25% of the variance on the dependent variable ( $F(1, 67) = 1.38$ ,  $p\text{-value} = .2562$ ). As in the Italian sample analysis, table 25 shows that the effect of WOM referral exposure on the mediator (a-path) was negative and significant ( $\beta = -2.22$   $t(67) = 1.78$ ,  $p = .0371$ ), while the effect of the mediator, customer satisfaction on the dependent variable (b-path) has been found to be positive and extremely significant ( $\beta = .435$   $t(66) = 18.31$ ,  $p = .0001$ ). Overall the standardized indirect effect was equal to  $(-2.22) (.435) = -.9657$ . This indirect effect has been found to be significant since the bootstrapped confidence interval did not contain 0, and ranged from C.I [-1.75, -.28]. However, as can be seen in table 26 in the dependent variable model which explained almost 93% of the variance on the dependent variable and was significant at  $p < .001$ , the direct effect of WOM referral exposure on customer referral value after accounting for the mediator was still significant and positive ( $\beta = .3189$   $t(66) = 2.08$ ,  $p = .0407$ ). Thus, in this situation the mediator customer satisfaction partially mediate the relationship between WOM referral exposure and customer referral value, while in the previous analysis on the Italian sample, the mediator customer satisfaction fully mediate the relationship between the independent and dependent variables.

Considering the results from the mediation analysis, hypothesis 1 which predicted that customer exposed to WOM referral are, on average, less satisfied with their movie consumption experience than customers not exposed to WOM referrals, was confirmed. Simultaneously, hypothesis 3, which stated that customers who are more satisfied with their movie consumption experience have

a higher referral value than customers who are less satisfied, is confirmed as well. In figure 8 the standardize regression coefficients for the relationship between WOM referral exposure and customer referral value as mediated for customer satisfaction are reported:

*Table 25: Mediator variable model (Dutch sample)*

*(DV): Customer Satisfaction*

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	4.34	1.78	2.43	.0176
<i>WOM Referral exposure (a-path)</i>	-2.22	.737	-3.01	.0371
<i>Opinion Seeking</i>	-.481	.240	1.99	.0498
<i>Opinion Leadership</i>	-.061	.252	-.244	.8080

$F(1, 67) = 3.15, P = .0303, R = .35$

*Table 26: Dependent Variable model (Dutch sample)*

*(DV): Customer Referral Value*

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	-.052	.362	-.144	.8862
<i>WOM Referral exposure</i>	.319	.152	2.08	.0407



<i>Satisfaction (b-path)</i>	.435	.023	18.31	.0000
<i>Opinion Seeking</i>	-.013	.048	-.266	.7909
<i>Opinion Leadership</i>	.041	.049	.8349	.4068

$$F(1, 66) = 90.05, P < .0001, R = .92$$

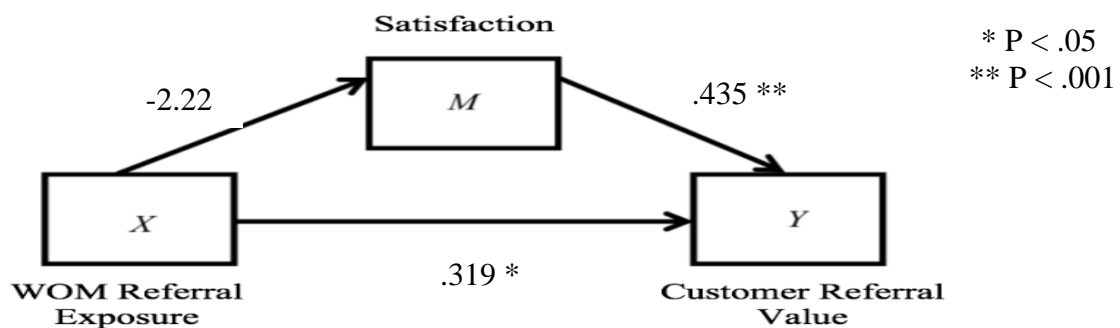
Table 24: Total effect model (Dutch sample)

(DV): Customer Referral Value

	Coeff	SD	T	P-value
<i>Constant</i>	1.83	.849	2.16	.0341
<i>WOM Referral exposure</i>	-.646	.351	-1.84	.0697
<i>Opinion Seeking</i>	.196	.114	1.71	.0911
<i>Opinion Leadership</i>	.10	.120	.011	.9062

$$F(1, 67) = 1.38, P = .2562, R = .24$$

Figure 8: Standardize regression coefficient for the relationship between WOM referral exposure and Customer referral value as mediated by customer satisfaction (Dutch sample)



As in the initial analysis on the overall and on the Italian samples, after the mediation role of customer satisfaction was established, we proceeded the analysis by examining the role of the moderator Tie strength in the association between WOM referral exposure and customer satisfaction. In order to accomplish this, first stage moderation analysis was used to estimate and test hypotheses about the paths of causal influence between the variables. As already specified, in order to conduct this analysis Model 7 from PROCESS macro was used. As in the previous analysis we expected the proposed moderator Tie strength to alter the relationship between the independent variable and the mediator. Specifically, we expected customers who received a referral from a strong ties (i.e. family member, partner, friends) to show an higher level of satisfaction after the movie consumption experience, compared to customers who receive a movie referral from a weak ties (i.e. strangers, acquaintances).

The results for this analysis are presented in Table 27 and figure 9 and involve the association between WOM referral exposure and customer satisfaction (a-path) and the effect of the interaction term between Tie strength and WOM referral exposure on customer satisfaction. This model shows the first part of the moderated mediation analysis. Lastly, in table 28 we reported the index of moderated-mediation which assumes a value equal to 19.36, with a confidence interval ranging from CI [-26.2, -6.02]. Results shows that the type of relationship and in particular the strength of the association between the referrer and the referred customer seems to be a determinant of the level of customer satisfaction. Indeed, as can be seen in table 28, for the lowest level of the moderator (weakest ties), the effect of the moderator on customer satisfaction is negative and significant (-5.79), while for moderate level of the moderator the effect results as positive but not significant (113.2). Lastly, as expected, the effect of the highest level of the moderator (strongest ties) has been found to be positive and highly significant (231.10). In table 19, the Index of moderated-mediation shows that the index is equal to 19.3 with a confidence interval ranging between C.I [6.31, 26.3]

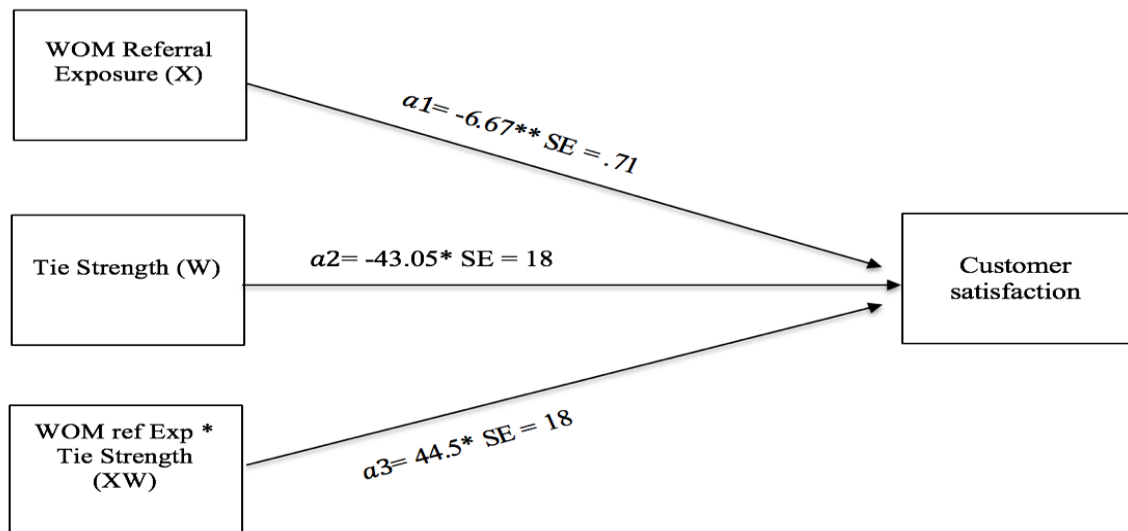
As final result from the moderation-mediation analysis it can be deducted that for the Dutch participants, as well for the Italian participants, the type of relationship, and in particular the strength of the relationship with the referrer is a determinant of their satisfaction level, when receiving a movie recommendation. In the last paragraph of the analysis we report the main insights and differences captured from the cross-national comparison between the two samples.

Table 11: Conditional process analysis; Mediator variable model (Dutch sample)

	<i>Coeff</i>	<i>SD</i>	<i>T</i>	<i>P-value</i>
<i>Constant</i>	6.86	1.36	5.03	.0000
<i>WOM referral</i>	-6.67	.711	-9.39	.0000
<i>Tie strength</i>	-43.5	18.2	-2.38	.0198
<i>Interaction term</i>	44.5	18.2	2.44	.0173
<i>Opinion Seeking</i>	.079	.163	.431	.6688
<i>Opinion Leadership</i>	-.133	.167	-.795	.4297

F (1, 65) =24.25, P =.0000, R=.80

Figure 9: Coefficients from Moderation analysis (Dutch sample)



As can be seen in Figure 9, the interaction effect of WOM referral exposure and Tie strength on customer satisfaction has been found to be positive and significant ( $\beta = 44.5$   $t(67) = 2.44$ ,  $p = .0173$ ) and thus the moderation effect of Tie strength between WOM referral exposure and customer satisfaction was confirmed. Moreover, results indicated that the moderator tie strength, was negatively associated with customer satisfaction with a significant effect ( $\beta = -43.1$   $t(67) = -2.38$ ,  $p = .0198$ ). This leads to the following equation of customer satisfaction for the Dutch sample:

$$\text{Satisfaction (M)} = 6.54 - 6.67 (\text{WOM ref}) - 43.1 (\text{Tie strength}) + 44.5 (\text{WOM ref} * \text{Tie strength}) + .79 (\text{Opinion Seeking}) - .133 (\text{Opinion Leadership})$$

In order to test in detail, the association between WOM referral exposure on customer referral value (CRV) through customer satisfaction, moderated by tie strength, the model generated bias corrected 95% bootstrap confidence intervals for the indirect effects using 10.000 bootstrap sample. As can be seen in table 18, for the three values of the moderator, low value, mean value and high value, the 10.000 bootstrapped confidence intervals reveals the conditional indirect effect for the low value of the moderator (weak ties) to be negative and significant with a value equal to -4.70. In contrast, for the moderate level the conditional indirect effect has been found to be positive (113.2) but not significant. Lastly, for the high value of the moderator, interpretable as the strongest tie, the indirect conditional effect has been found to be highly positive (231.1) and significant. By means of this analysis we confirmed hypothesis 2 which predicted that customers who receive referrals from a strong tie are more satisfied with their movie consumption experience than customers who receive referrals from a weak tie.

*Table 12: Conditional indirect effect of WOM ref exposure on CRV through Satisfaction at value of Tie strength (Dutch Sample)*

	<i>Effect</i>	<i>SD</i>	<i>T</i>	<i>P</i>	<i>BootLLCI</i>	<i>BootULCI</i>
Low level: <i>Weak tie</i>	-4.70	.731	-6.43	.0000	-6.16	-3.24

Moderate level	113.2	48.7	2.32	.0233	-15.9	210.5
High level: <i>Strong tie</i>	231.1	96.9	2.38	.0201	37.4	424.8

*Table 13: Index of Moderated – Mediation (Dutch Sample)*

	<i>Index</i>	<i>BootSE</i>	<i>BootLLCI</i>	<i>BootULCI</i>
Tie Strength	19.36	12.24	6.315	26.027

#### **4.5.3 Comparison between the Italian and Dutch samples**

The cross-national comparison between the Italian and Dutch sample revealed some interesting insights about the relationship between WOM referral exposure and customer referral value in two different cultural context and realities. The moderated-mediation analysis on the Italian and Dutch samples confirmed our three developed hypothesis, highlighting the role of customer satisfaction and tie strength in the WOM diffusion process. Specifically, results show that the mediator customer satisfaction fully mediate the associations between WOM referral exposure and customer referral value in the Italian sample, while for the Dutch sample, the mediator only partially mediate this relationship. Indeed, a small and significative direct effect remains after accounting for the mediator. Although this direct effect accounts for a small share of the total effect, it may delineate several interesting mechanisms, which we do not identify in our study.

However, these results provide us a first important managerial insight: satisfaction plays a major role in the extent to which customers who receive a movie referral would pass it on to others and therefore be of high referral value. Moreover, in both samples, consistently with our prediction and the relevant literature, we found a significant and negative main effect of WOM referral exposure on satisfaction. We explain this negative effect by the fact that customers who received a movie referral have a tendency to form higher expectations about the movie, thus increasing the probability that they will end up disappointed and therefore unsatisfied compared to customers

who did not received a movie referral. By means of these results, hypothesis 1 was confirmed in both the Italian and the Dutch sample.

Additionally, we discovered that in the Italian and Dutch sample, the negative effect between WOM referral exposure and customer satisfaction is positively moderated by the strength of the relationship between the referrer and the referred customer. Indeed, in both samples, customers who are likely to receive referrals from a referrer who is considered as a strong tie (i.e. family member, friend, partner) end up more satisfied with their movie consumption experiences than customers who use to receive a movie referral from a referrer considered as a weak tie (i.e. acquaintances, strangers, colleagues). Specifically, both in the Italian and Dutch sample, the moderated-mediation analysis revealed that the moderating role of the tie strength in the association between WOM referral exposure on customer satisfaction has been found to be negative only for the lowest level of the tie strength, interpretable as the weakest type of relationship between the referrer and the recipient of the referral. Indeed, in this case the referrer is not well aware about the recipients' movies preferences and thus ends up recommending something that is not well-appreciated. Unexpectedly, the moderated level (mean value) of the tie strength has been found to be positive but not significant in both samples, while the highest level of the moderator, equal to the mean value plus one standard deviation, interpretable as the strongest type of relationship between the referrer and referred customer has been found to be highly positive and significant in both samples. Respectively, in the Italian and Dutch sample the effect of the highest levels of the moderator on customer satisfaction was exactly, 183.9 and 231.

This is the main finding, since we demonstrated and give relevance to the fact that the strength of the relationship between the referrer and the referred customers makes a big difference in the final customer satisfaction level, which is the main antecedent of WOM referral behavior.

When the referrer customer has a good knowledge about the movie preferences of the referred customer, as in the case of strong ties, we noticed that the negative effect of receiving a referral becomes smaller in intensity and that customer satisfaction level arises as the strength of the relationship increases.

We deduced that, receiving a referral from a strong tie means being more satisfied with the movie consumption experience and thus recommend the movie to a larger amount of people. However, no particular differences were discovered between the two samples.

## **Chapter 5: Discussion and Managerial Implication**

### **5.1. Discussion**

Our research reveals a number of interesting findings about the relationship between receiving and giving WOM referrals. At first, compared to previous research on WOM diffusion process, this study takes into account the endogenous selection process by which customers are exposed to WOM referrals by a non-random process, thus providing more relevance and support to the results. Overall, in contrast to previous research, the results show that, on average, being exposed to WOM referrals does not affect the number of referrals a customer will make in turn. This means that there is not a significant difference concerning the referral value of customers exposed to WOM referral and customers not exposed to WOM referrals.

Noteworthy, we obtained relevant insights in the mechanism that lead to these effects, initially on the overall sample and then separately for the Italian and Dutch sample. However, no peculiar and suggestive differences were discovered by conducting this cross-national comparison study.

As expected, we found that referred customers end up less satisfied than non-referred customers. This is consistent with the disconfirmation of expectations account proposed by Oliver (1980), who stated that WOM referrals create unrealistic expectations about the movie a customer is about to view which are disconfirmed when seeing the movie, leading to lower the satisfaction level. However, this result from the mediation analysis is also in contrast with some previous research suggesting that customers acquired through WOM might be satisfied customers (Bolton et al., 2004; Uncles et al., 2013). Precisely, we discovered that in the Italian sample, the customer satisfaction level fully mediate the relationship between WOM referral exposure and customer referral value, while in the Dutch sample this relationship was only partially mediate by the mediator. This means that, for the Italian respondents, the satisfaction level with the movie consumption experience is the main significant antecedent of customer referral value, while for the Dutch respondents there could be other interesting antecedents which lead the customer to refer the movie in turn.

Lastly, by conducting the moderated-mediation analysis on both samples, in order to examine the moderator role of tie strength in the relationship between WOM referral exposure and customer satisfaction, we discovered that a key reason why customers exposed to referrals are less satisfied

and subsequently spread less referrals, relates to the fact that referred customers tend to receive referrals from someone who is considered as a weak ties connection (i.e. strangers, acquaintances). When the strength of the relationship between the referrer and the referred customer is weak, like in the case with strangers or acquaintances, the referrals tend to be ill-matched with the receiver's movie preferences, and thus leading the level of satisfaction of the referred customer after the movie consumption experience to decrease significantly as a direct consequence. In the opposite situation, when the referrer and the referred customers share a strong tie relationship, the content of the referral is likely to be coherent and well-matched with the receiver's movie preferences, leading the level of customer satisfaction to increase considerably after the movie consumption experience. Considering the results, despite the prevalence of the weak-tie hypothesis developed by Granovetter, the marketing value of strong versus weak ties needs to be reconsidered carefully. As already explained by Granovetter, the strength of weak ties rests upon their informative and structural advantages compared to strong ties relationships. However, results show that in the movie industry, receiving a recommendation from a strong tie, compared to a weak tie, notably boost the level of customer satisfaction and thus the likelihood of spreading the referral among other people.

Some real-world cases provide evidence for our key findings. For example, a famous case is the Google's Gmail campaign. At the beginning of its launch period, Gmail and its large inbox storage space made headlines in newspaper and Internet reports. This led to great enthusiasm in the market, however Gmail was launched in a limited, invite-only release. This means that each existing user only had a small number of invitations and had to provide google with the private information of their invitees. In this case, it has been found that invitations were mostly distributed between friends and family members (i.e. strong ties). The end of the story is well known: Gmail has become an international phenomenon that connect millions, if not billions, of people. Although it is not possible to affirm that weak ties has no effect in this case, the predominant effect of strong ties in the WOM diffusion process is more than evident.

This finding support the idea that not all referrals are equally useful in influencing the flow of information in the marketplace. Indeed, effective movie recommendations should take the strength of the relationship between the referrer and the referred customer into account, and thus require knowledge of both the product and the person receiving the recommendation. In this way, the referrer suggestions will be perfectly matched with the referred customers' preferences, leading



his/her satisfaction level to increase and the flow of information in the market to proceed fluently and efficiently.

## **5.2. Managerial Implications**

This research offer a number of important managerial implications for firms interested in WOM acquisition strategies. While, WOM acquisition strategies have been found to attract valuable customers compared to other acquisition strategy (Schmitt et al., 2011), we discover that unless the referral came from strong ties connections, they are less likely to recruit customers with a higher referral value. Taking into account the self-selection mechanism, by which receiving a product recommendation is a non-random process, we discovered that customers exposed to WOM referral do not have significantly different referral value than customers not exposed to WOM referral. This means that they do not spread the recommendations to a larger number of people in their network.

For marketing managers this result implies that firms can count on high revenues stream from customers recruited via referrals but concurrently they should realize that these customers do not differ from those not exposed to WOM referral in terms of customer referral value. Consequently, if companies want to increase the value of the customer base, they should focus on creating strong ties connection between their customers and prospects, and simultaneously to contain the flow of information between customers and prospects who share a weak tie relationship.

Moreover, the results from the moderated-mediation analysis reveal that companies should act carefully when implementing WOM acquisition campaigns, focusing not only on the customer lifetime value of the acquired customers, but also taking into account their referral value. Indeed, from the moderated-mediation analysis the main results shows that the customer satisfaction level play a crucial role in the flow of information in the market in both samples, thus leading the referred customer to spread the referral in his/her network. For this reason, companies should focus on incentivizing the referral behavior between strong ties connections in their customer base in order to maintain a determined customer satisfaction level that will allow to maintain a notable level of efficiency on the flow of relevant information in the market.

For instance, in order to accomplish this goal, marketers could distinguish the reward for strong and weak tie referrals, making the former more attractive so as to effectively incentivize and support the flow of relevant information in the marketplace.

In conclusion, as Wang et al., (2018) unveiled, the superiority of strong ties will increase progressively with the average connectivity of consumers, with the implication that strong ties will become particularly valuable also in the online world and become a fundamental driver of information as the average connectivity of consumers increases day by day.

### **5.3. Limitation and Directions for future research**

Our study suffers from several limitations that offer opportunities for future research. Initially, considering the cross-national nature of the research, the first limitation was the small sample size composed of 117 respondents. This small sample size may have prevented us from obtaining relevant data with implications for larger populations. Further research is necessary to verify that this study's findings would transfer and generalize to another population.

Furthermore, like the majority of studies on WOM referrals, we used self-reported data. A key reason to use survey data is that it allows us to study the moderated-mediating mechanism that links receiving and giving referrals. It could be interesting if future research may augment similar survey data with secondary data on actual referral activity or average connectivity of the referrer in the relevant population. Moreover, we investigate the effect of WOM referrals on a customer referral value in general terms. It would be really interesting to study the extent to which the content of these referrals also plays a role. Indeed, in our model, consumers are assumed to spread only positive WOM, but negative WOM is inevitable in a market, and it can travel faster than positive WOM. Considering the relevance and the effect of negative WOM on firm's performance, there is the interesting fact that consumers tend to share negative WOM with strong ties, but positive WOM with weak ties, as Dubois et al., discovered. It would be useful to examine how the moderator role of strong and weak ties may alter if these assumptions are altered. To conclude, in view of previous work and the current research, we strongly believe that WOM acquisition strategy can be potentially successful strategies for firms to acquire valuable customers, but should be

implemented with an accurate examination of the strength of the relationship between the referrer and the referred customers if they want the flow of information to spread among other consumers.

## References:

Ågren, M., & Ölund, M. (2007). Storytelling: A study of marketing communication in the hospitality industry.

Atton, N., Hoppitt, W., Webster, M. M., Galef, B. G., & Laland, K. N. (2012). Information flow through threespine stickleback networks without social transmission. *Proceedings of the Royal Society B: Biological Sciences*, 279(1745), 4272-4278.

Bughin, J., Doogan, J., & Vetvik, O. J. (2010). A new way to measure word-of-mouth marketing. *McKinsey Quarterly*, 2, 113-116.

Berger, P. D., & Bechwati, N. N. (2001). The allocation of promotion budget to maximize customer equity. *Omega*, 29(1), 49-61.

Berman, B. (2016). Referral marketing: Harnessing the power of your customers. *Business Horizons*, 59(1), 19-28.

Bearden, W. O., & Teel, J. E. (1983). Selected determinants of consumer satisfaction and complaint reports. *Journal of marketing Research*, 20(1), 21-28.

Beatty, P. C., & Willis, G. B. (2007). Research synthesis: The practice of cognitive interviewing. *Public opinion quarterly*, 71(2), 287-311.

Blodgett, J. G., Granbois, D. H., & Walters, R. G. (1993). The effects of perceived justice on complainants' negative word-of-mouth behavior and repatronage intentions. *Journal of retailing*, 69(4), 399-428.

Bone, P. F. (1995). Word-of-mouth effects on short-term and long-term product judgments. *Journal of business research*, 32(3), 213-223.

Biggart, N. W. (1989). Charismatic capitalism: Direct selling organizations in America. University of Chicago Press.

Bijmolt, T. H., Leeflang, P. S., Block, F., Eisenbeiss, M., Hardie, B. G., Lemmens, A., & Saffert, P. (2010). Analytics for customer engagement. *Journal of Service Research*, 13(3), 341-356.

Biyalogorsky, E., Gerstner, E., & Libai, B. (2001). Customer referral management: Optimal reward programs. *Marketing Science*, 20(1), 82-95.

Bruner, G. C., Hensel, P. J., & James, K. E. (2001). Marketing scales handbook. Chicago: *American Marketing Association*.

Caliendo, M., & Kopeinig, S. (2008). Some practical guidance for the implementation of propensity score matching. *Journal of economic surveys*, 22(1), 31-72.

Charters, E. (2003). The use of think-aloud methods in qualitative research an introduction to think-aloud methods. *Brock Education Journal OLD*, 12(2).

De Bruyn, A., & Lilien, G. L. (2008). A multi-stage model of word-of-mouth influence through viral marketing. *International journal of research in marketing*, 25(3), 151-163.

Duhan, D. F., Johnson, S. D., Wilcox, J. B., & Harrell, G. D. (1997). Influences on consumer use of word-of-mouth recommendation sources. *Journal of the academy of marketing science*, 25(4), 283.

Ericsson, K. A., & Simon, H. A. (1980). Verbal reports as data. *Psychological review*, 87(3), 215.

Feldman, J. M., & Lynch, J. G. (1988). Self-generated validity and other effects of measurement on belief, attitude, intention, and behavior. *Journal of applied Psychology*, 73(3), 421.

Feick, L. F., Price, L. L., & Higie, R. A. (1986). People who use people: The other side of opinion leadership. *ACR North American Advances*.

Flynn, L. R., Goldsmith, R. E., & Eastman, J. K. (1996). Opinion leaders and opinion seekers: Two new measurement scales. *Journal of the academy of marketing science*, 24(2), 137.

Frenzen, J. K., & Davis, H. L. (1990). Purchasing behavior in embedded markets. *Journal of Consumer Research*, 17(1), 1-12.

Garnefeld, I., Eggert, A., Helm, S. V., & Tax, S. S. (2013). Growing existing customers' revenue streams through customer referral programs. *Journal of Marketing*, 77(4), 17-32.

Granovetter, M. S. (1977). The strength of weak ties. In *Social networks* (pp. 347-367). *Academic Press*.

Godes, D., & Mayzlin, D. (2009). Firm-created word-of-mouth communication: Evidence from a field test. *Marketing science*, 28(4), 721-739.

Han, H., & Ryu, K. (2012). Key factors driving customers' word-of-mouth intentions in full-service restaurants: The moderating role of switching costs. *Cornell Hospitality Quarterly*, 53(2), 96-109.

Haenlein, M., & Libai, B. (2013). Targeting revenue leaders for a new product. *Journal of Marketing*, 77(3), 65-80.

Halstead, D., Hartman, D., & Schmidt, S. L. (1994). Multisource effects on the satisfaction formation process. *Journal of the Academy of marketing science*, 22(2), 114-129.

Heinonen, K., Strandvik, T., Mickelsson, K. J., Edvardsson, B., Sundström, E., & Andersson, P. (2010). A customer-dominant logic of service. *Journal of Service management*, 21(4), 531-548.

Heinonen, K., Campbell, C., & Ferguson, S. L. (2019). Strategies for creating value through individual and collective customer experiences. *Business Horizons*, 62(1), 95-104.

Helm, S. (2003). Calculating the value of customers' referrals. *Managing Service Quality: An International Journal*, 13(2), 124-133.

Herr, P. M., Kardes, F. R., & Kim, J. (1991). Effects of word-of-mouth and product-attribute information on persuasion: An accessibility-diagnostics perspective. *Journal of consumer research*, 17(4), 454-462.

Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2007). Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference. *Political analysis*, 15(3), 199-236.

Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2004). MatchIt: Matching software for causal inference.

Hu, H. H., Wang, L., Jiang, L., & Yang, W. (2018). Strong ties versus weak ties in word-of-mouth marketing. *BRQ Business Research Quarterly*.

Katz, E., & Lazarsfeld, P. F. (1995). Between media and mass/the part played by people/the two-step flow of communication. Boyd-Barrett, Ch. Newbold (red.), *Approaches to Media*, London, 124-134.

Keong, R. T. (2006). 'Word-of-Mouth: The Effect of Service Quality, Customer Satisfaction and Commitment in a Commercial Education Context. *PhD diss. Graduate School of Management, University of Western Australia*.

Kilian, T., Greuling, K., & Hennigs, N. (2013). Communicating competency in references: A qualitative analysis of the utilization of references in mechanical engineering. *Journal of Business-to-Business Marketing*, 20(2), 65-79.

Kirby, J., & Marsden, P. (Eds.). (2006). *Connected marketing: the viral, buzz and word of mouth revolution*. Elsevier.

- Kornish, L. J., & Li, Q. (2010). Optimal referral bonuses with asymmetric information: Firm-offered and interpersonal incentives. *Marketing Science*, 29(1), 108-121.
- Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., & Tillmanns, S. (2010). Undervalued or overvalued customers: capturing total customer engagement value. *Journal of service research*, 13(3), 297-310.
- Lin, T. M., & Liao, C. W. (2008). Knowledge dissemination of word-of-mouth research: citation analysis and social network analysis. *Libri*, 58(4), 212-223.
- Macdonald, E. K., Kleinaltenkamp, M., & Wilson, H. N. (2016). How business customers judge solutions: Solution quality and value in use. *Journal of Marketing*, 80(3), 96-120.
- Mahajan, V., Muller, E., & Bass, F. M. (1990). New product diffusion models in marketing: A review and directions for research. *Journal of marketing*, 54(1), 1-26.
- Mahajan, V., Muller, E., & Wind, Y. (Eds.). (2000). *New-product diffusion models* (Vol. 11). Springer Science & Business Media.
- Marsden, P. V., & Campbell, K. E. (1984). Measuring tie strength. *Social forces*, 63(2), 482-501.
- Maxham III, J. G., & Netemeyer, R. G. (2002). A longitudinal study of complaining customers' evaluations of multiple service failures and recovery efforts. *Journal of marketing*, 66(4), 57-71.
- Molinari, L. K., Abratt, R., & Dion, P. (2008). Satisfaction, quality and value and effects on repurchase and positive word-of-mouth behavioral intentions in a B2B services context. *Journal of Services Marketing*, 22(5), 363-373.
- Moore, S. G. (2010). The other side of the story: New perspectives on word of mouth. *ACR North American Advances*.



Neelamegham, R., & Jain, D. (1999). Consumer choice process for experience goods: An econometric model and analysis. *Journal of marketing research*, 36(3), 373-386.

Nusair, K., Hua, N., Ozturk, A., & Butt, I. (2017). A theoretical framework of electronic word-of-mouth against the backdrop of social networking websites. *Journal of Travel & Tourism Marketing*, 34(5), 653-665.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469.

Pfeifer, P. E., & Farris, P. W. (2004). The elasticity of customer value to retention: The duration of a customer relationship. *Journal of Interactive Marketing*, 18(2), 20-31.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate behavioral research*, 42(1), 185-227.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, 40(3), 879-891.

Ranaweera, C., & Prabhu, J. (2003). On the relative importance of customer satisfaction and trust as determinants of customer retention and positive word of mouth. *Journal of Targeting, Measurement and Analysis for marketing*, 12(1), 82-90.

Reichheld, F. The ultimate question: driving good profits and true growth. 2006. Harvard Business School Press Cambridge, MA.

Reingen, P. H., & Kernan, J. B. (1986). Analysis of referral networks in marketing: Methods and illustration. *Journal of marketing research*, 23(4), 370-378.

Reeves, B., Chaffee, S. H., & Tims, A. R. (1982). Social cognition and mass communication research. In *Social cognition and communication* (pp. 287-326). Sage.

Roberts Caroline, E. (2007). Mixing modes of data collection in surveys: A methodological review (No. 008). ESRC National Centre for Research Methods.

Ryu, G., & Feick, L. (2007). A penny for your thoughts: Referral reward programs and referral likelihood. *Journal of Marketing*, 71(1), 84-94.

Rubin, D. B., & Thomas, N. (1996). Matching using estimated propensity scores: relating theory to practice. *Biometrics*, 249-264.

Shankar, V., Smith, A. K., & Rangaswamy, A. (2003). Customer satisfaction and loyalty in online and offline environments. *International journal of research in marketing*, 20(2), 153-175.

Schmitt, P., Skiera, B., & Van den Bulte, C. (2011). Referral programs and customer value. *Journal of marketing*, 75(1), 46-59.

Schüller, A. M. (2015). *Das neue Empfehlungsmarketing*. BusinessVillage.

Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science*, 25(1), 1-21.

Trusov, M., Bucklin, R. E., & Pauwels, K. (2009). Effects of word-of-mouth versus traditional marketing: findings from an internet social networking site. *Journal of marketing*, 73(5), 90-102.

Uncles, M. D., East, R., & Lomax, W. (2013). Good customers: The value of customers by mode of acquisition. *Australasian Marketing Journal (AMJ)*, 21(2), 119-125.

Van Den Bulte, C., Bayer, E., Skiera, B., & Schmitt, P. (2018). How customer referral programs turn social capital into economic capital. *Journal of Marketing Research*, 55(1), 132-146.

Jackson, E. M. (2004). *The PayPal Wars: Battles with eBay, the Media, the Mafia, and the Rest of Planet Earth*. World Ahead Publishing.

Van den Bulte, C., & Wuyts, S. H. K. (2007). *Social networks in marketing*. MSI Relevant Knowledge Series.

Voyer, P. A., & Ranaweera, C. (2015). The impact of word of mouth on service purchase decisions: Examining risk and the interaction of tie strength and involvement. *Journal of Service Theory and Practice*, 25(5), 636-656.

Verlegh, P. W., Ryu, G., Tuk, M. A., & Feick, L. (2013). Receiver responses to rewarded referrals: the motive inferences framework. *Journal of the Academy of Marketing Science*, 41(6), 669-682.

Verhoef, P. C., & Donkers, B. (2005). The effect of acquisition channels on customer loyalty and cross-buying. *Journal of Interactive Marketing*, 19(2), 31-43.

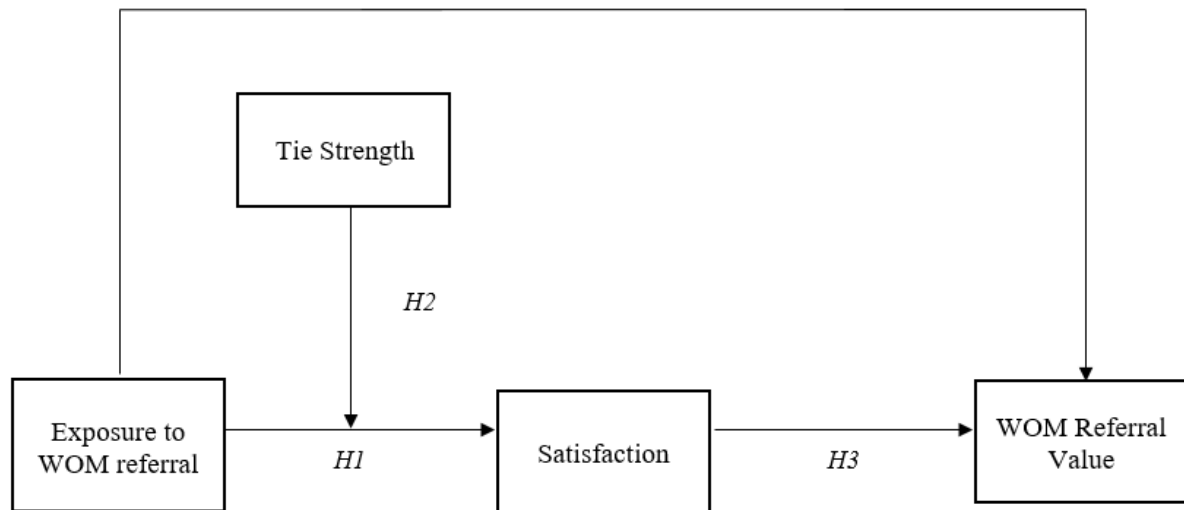
Villanueva, J., Yoo, S., & Hanssens, D. M. (2008). The impact of marketing-induced versus word-of-mouth customer acquisition on customer equity growth. *Journal of marketing Research*, 45(1), 48-59.

Wilcox, R. R. (2011). *Introduction to robust estimation and hypothesis testing*. Academic press.

Yang, S., Hu, M., Winer, R. S., Assael, H., & Chen, X. (2012). An empirical study of word-of-mouth generation and consumption. *Marketing Science*, 31(6), 952-963.

## Appendix:

Figure 4: Conceptual Framework



*Table 14*  
*Survey Items and Scales (English Version)*

<b>Construct</b>	<b>Item</b>	<b>Scales</b>
<i>WOM referral exposure</i>  <i>WOM referral value</i>	Did anyone recommend you this movie before you saw it?	Yes/No
	How many people, approximately, did you recommend the movie to?	#
	How many people, approximately, do you intend to recommend the movie in the future?	#
<i>Satisfaction 1</i>	I am satisfied with my overall experience with the movie	Strongly Disagree – Strongly Agree
<i>Satisfaction 2</i>	As a whole, I am not satisfied with the movie *	Strongly Disagree – Strongly Agree
<i>Satisfaction 3</i>	How satisfied are you overall with the quality of the movie?	Very Dissatisfied – Very Satisfied
<i>Tie strength 1</i>	Please rate your relationship with the person who referred the movie	Extremely distant – Extraordinary Close
<i>Tie strength 2</i>	What is the likelihood of you sharing a personal confidence with the person who referred the movie?	Very Unlikely – Very Likely
<i>Tie strength 3</i>	What is the likelihood of you extending assistance (the everyday type vs. emergency) to the person who referred the movie?	Very Unlikely – Very Likely
<i>Tie strength 4</i>	What is the likelihood of you spending a free afternoon with the person who referred the movie?	Very Unlikely – Very Likely
<i>Opinion seeking 1</i>	When I consider seeing a movie, I ask other people for advice	Strongly Disagree – Strongly Agree

<i>Opinion seeking 2</i>	I don't need to talk to others before I see a movie *	Strongly Disagree – Strongly Agree
<i>Opinion seeking 3</i>	I rarely ask other people what movies to see *	Strongly Disagree – Strongly Agree
<i>Opinion seeking 4</i>	I like to get others' opinions before I see a movie	Strongly Disagree – Strongly Agree
<i>Opinion seeking 5</i>	I feel more comfortable seeing a movie when I have gotten other people's opinions on it	Strongly Disagree – Strongly Agree
<i>Opinion seeking 6</i>	When choosing a movie, other people's opinions are not important to me *	Strongly Disagree – Strongly Agree
<i>Opinion leadership 1</i>	My opinion about movie seems not to count with other people *	Strongly Disagree – Strongly Agree
<i>Opinion leadership 2</i>	When they choose a movie, other people do not turn to me for advice *	Strongly Disagree – Strongly Agree
<i>Opinion leadership 3</i>	Other people rarely come to me for advice about choosing movies *	Strongly Disagree – Strongly Agree
<i>Opinion leadership 4</i>	People that I know pick movies based on what I have told them	Strongly Disagree – Strongly Agree
<i>Opinion leadership 5</i>	I often persuade other people to see movies that I like	Strongly Disagree – Strongly Agree
<i>Opinion leadership 6</i>	I often influence people's opinions about popular movies	Strongly Disagree – Strongly Agree
<i>Gender</i>	What is your gender?	Male/Female
<i>Age</i>	What is your age?	#
<i>Country</i>	The interview has been completed in:	Tilburg/Rome

Note: All “Strongly Disagree – Strongly Agree” – “Very Dissatisfied – Very Satisfied” and “Very Unlikely – Very Likely” scales are seven-point Likert scales.

\* Denotes a negatively worded (reversed) item

Table 15:  
Survey items and Scales (Italian Version)

Construct	Item	Scales
<i>WOM referral exposure</i>	Qualcuno ti ha consigliato questo film prima che tu lo guardassi?	SI/NO
<i>WOM referral value</i>	A quante persone, approssimativamente, hai raccomandato questo film in precedenza?	#
	A quante persone, approssimativamente, hai intenzione di consigliare questo film?	#
<i>Satisfaction 1</i>	Sono soddisfatto della mia esperienza complessiva con il film	Fortemente in disaccordo – Fortemente d'accordo
<i>Satisfaction 2</i>	Nel complesso, non sono soddisfatto del film *	Fortemente in disaccordo – Fortemente d'accordo
<i>Satisfaction 3</i>	Quanto sei soddisfatto della qualità del film?	Fortemente insoddisfatto – Fortemente soddisfatto
<i>Tie Strength 1</i>	Come valuti il tuo rapporto con la persona che ti ha consigliato di vedere il film:	Non affatto forte – Estremamente forte
<i>Tie Strength 2</i>	Qual è la probabilità che tu condivida un segreto con la persona che ti ha consigliato il film?	Estremamente improbabile – Estremamente Probabile
<i>Tie Strength 3</i>	Qual è la probabilità che tu dia assistenza (quotidiana oppure in caso di emergenza) alla persona che ti ha consigliato il film ?	Estremamente improbabile – Estremamente Probabile
<i>Tie Strength 4</i>	Qual è la probabilità che tu trascorra un pomeriggio libero con la persona che ha fatto il film?	Estremamente improbabile – Estremamente Probabile
<i>Opinion seeking 1</i>	Quando ho in mente di vedere un film, chiedo consiglio ad altre persone	Fortemente in disaccordo – Fortemente d'accordo

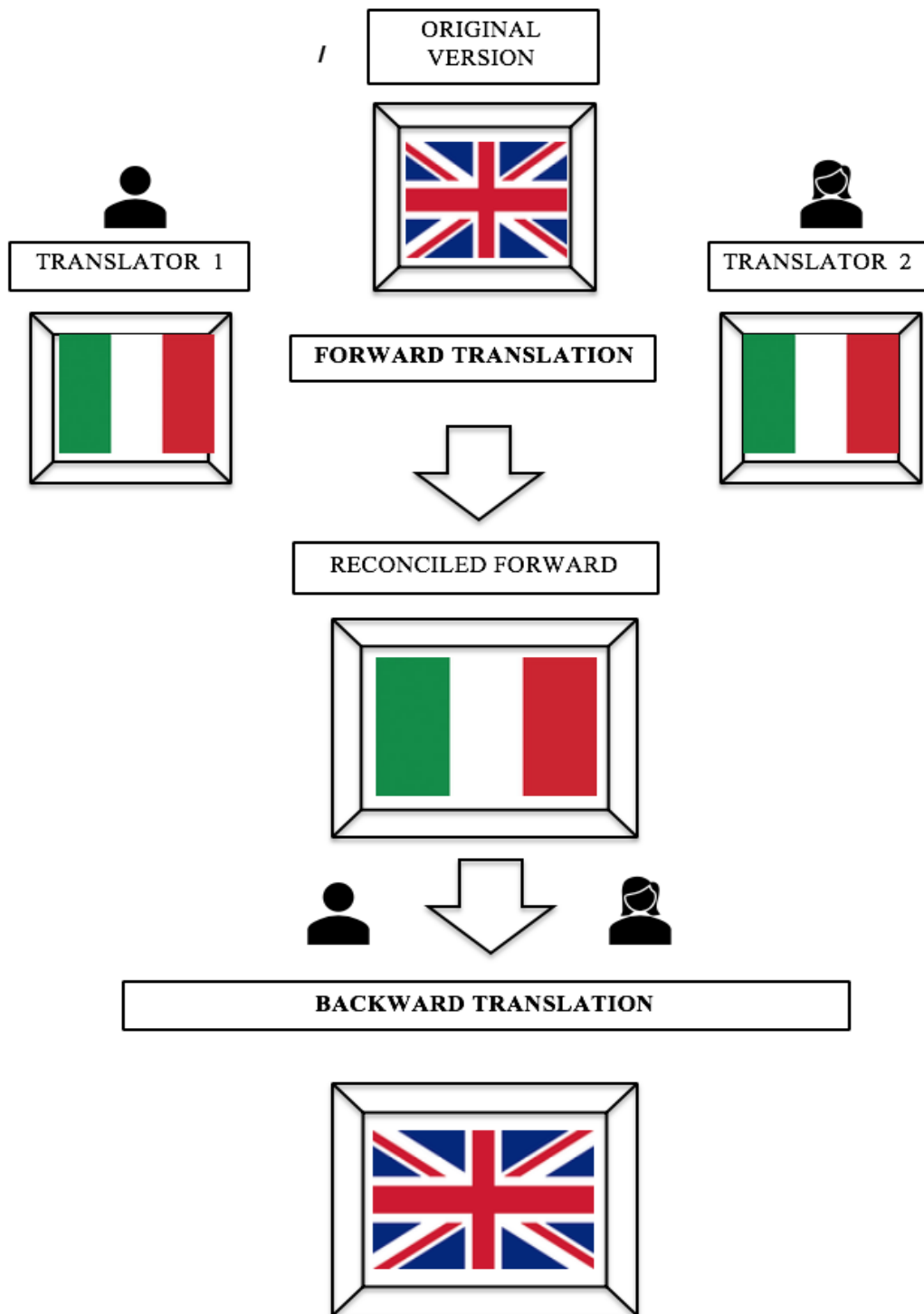
<i>Opinion seeking 2</i>	Non ho bisogno di parlare con gli altri prima di vedere un film *	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion seeking 3</i>	Raramente chiedo ad altre persone che film vedere *	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion seeking 4</i>	Mi piace avere le opinioni degli altri prima di vedere un film	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion seeking 5</i>	Mi sento più a mio agio nel vedere un film quando ho avuto delle opinioni altrui su quel film	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion seeking 6</i>	Quando scelgo un film, le opinioni degli altri non sono importanti per me	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 1</i>	La mia opinione riguardo i film sembra non contare sulle altre persone	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 2</i>	Quando qualcuno sceglie un film non si rivolge a me per un consiglio *	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 3</i>	Altre persone raramente mi chiedono consigli sulla scelta dei film *	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 4</i>	Le persone che conosco scelgono che film vedere basandosi su ciò che io ho consigliato loro in precedenza	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 5</i>	Spesso convinco le altre persone a vedere i film che mi piacciono.	Fortemente in disaccordo – Fortemente d'accordo
<i>Opinion leadership 6</i>	Ho spesso influenzato le opinioni delle persone sui film popolari	Fortemente in disaccordo – Fortemente d'accordo
<i>Gender</i>	Qual è il tuo genere?	Uomo/Donna
<i>Age</i>	Quanti anni hai?	#
<i>Country</i>	L'intervista è stata effettuata in:	Tilburg/Roma

Note: All “Strongly Disagree – Strongly Agree” – “Very Dissatisfied – Very Satisfied” and “Very Unlikely – Very Likely” scales are seven-point Likert scales.

\* Denotes a negatively worded (reversed)



Figure 10: Forward-Backward translation



Dear Participant,

Thank you for participating in this research, your help is greatly appreciated.

This study is being conducted by Alessandro Falcetti, Marketing Analytics student at Tilburg University.

In the next 5 minutes, I am going to ask you some questions regarding Word-of-Mouth referral behavior in the movies industry.

All the answers you provide will be kept in the strictest confidentiality

In line with university policies, data from the study will be used only for educational purpose and there is no personal data kept from which you can be identified (i.e., name, e-mail, etc.)

Let's start!

Q2: Please provide the title of the movie you just watched at the movie theater:

---

-----

Q3: Have you already seen this movie before?

☐ Yes

☐ No

---

Q4: Did someone recommend you this movie before you watched it?

☐ Yes

☐ No

---

Page Break

---

Display This Question:

*If Did someone recommend you this movie before you watched it? = Yes*

Q5: How close is your relationship with the person who recommended you the movie?

	Extremely distant	Moderately Distant	Somewhat Distant	Neither close nor distant	Somewhat Close	Moderately close	Extremely close
Your relationship with the referrer is:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

Display This Question:

*If Did someone recommend you this movie before you watched it? = Yes*

Q6: Please indicate to what extent you think these statements are Likely or Unlikely to happen:

	Extremely Unlikely	Moderately Unlike	Slightly Unlikely	Neither Likely nor Unlikely	Slightly Likely	Moderately Likely	Extremely Likely
What is the likelihood of you sharing a personal confidence with the person who referred the movie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is the likelihood of you extending assistance (the everyday type vs. emergency) to the person who referred the movie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What is the likelihood of you spending a free afternoon with the person who referred the movie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

-----

Display This Question:

If Did someone recommend you this movie before you watched it? = Yes

Q7: What is your relationship with the person who recommend to you the movie?

- ☐ Friends
  - ☐ Acquaintance
  - ☐ Partner
  - ☐ Family member
  - ☐ Strangers
  - ☐ Colleagues
  - ☐ Other (Please specify) \_\_\_\_\_
- 

*Display This Question:*

*If Did someone recommend you this movie before you watched it? = Yes*

Q8: Through which channel did you receive the recommendation about the movie?

- ☐ Face to Face
- ☐ Via Social network
- ☐ Via phone
- ☐ Via SMS/Instant messaging
- ☐ Via email
- ☐ Other (Please specify) \_\_\_\_\_

Q9: Please, state your Satisfaction level with the movie consumption experience:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I am satisfied with my overall experience with the movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As a whole, I am not satisfied with the movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10: Please, state your Satisfaction level with the movie consumption experience:

	Extremely Dissatisfied	Moderately Dissatisfied	Slightly Dissatisfied	Neither Satisfied nor Dissatisfied	Slightly Satisfied	Moderately Satisfied	Extremely Satisfied
How satisfied are you overall with the quality of the movie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11: Please evaluate the quality of the movie, using a scale from 1 to 11, where 1 is equal to "Poor" and 11 is equal to "Excellent".

	Poor	2	3	4	5	6	7	8	9	10	Excellent
Quality of the acting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of the story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality on the production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Overall quality of the commercial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12: My movie consumption experience has been:

	1	2	3	4	5	6	7	8	9	10	11	
Not enjoyable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Enjoyable
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
Unpleasant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Pleasant
Unlikable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Likable
Depressing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Uplifting
Not entertaining	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Entertaining
Irritating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not irritating

*Display This Question:*

*If Have you already seen this movie before? = Yes*

Q13: How many people, approximately, did you recommend the movie to?

---

Q14: How many people, approximately, do you intend to recommend this movie to?

---



Q15: Please indicate to what extent do you Agree or Disagree with the following statements:

[illegible]

Q16: Please indicate to what extent you Agree or Disagree with the following statements:

[illegible]

Q17: How much do you enjoy going to the movie theater?

Using a scale from 1 to 7 where 1 means "Not at all" and 7 means "Very much"

- ☐ Not at all
  - ☐ 2
  - ☐ 3
  - ☐ 4
  - ☐ 5
  - ☐ 6
  - ☐ Very much
- 

Q18: How often do you go to the movie theater per year?

- ☐ More than once a month
- ☐ Once a month
- ☐ Once every 3 months
- ☐ Twice a year
- ☐ Once a year
- ☐ Almost never
- ☐ Other (Please specify) \_\_\_\_\_

Q19: Who do you usually go to the movie theater with?  
(Check all that apply)

- ☐ Friends
- ☐ Family members
- ☐ Alone
- ☐ Partner
- ☐ I don't go to the movies theater
- ☐ Others (Please specify) \_\_\_\_\_

Q20: What types of movies do you usually like to watch at the movie theater?  
(Check all that apply)

- ☐ Comedy
- ☐ Horror
- ☐ Romantic
- ☐ Action
- ☐ Drama
- ☐ Western
- ☐ Thriller
- ☐ Animated
- ☐ Classic
- ☐ Documentary
- ☐ Others (Please specify)

Q21: Please indicate to what extent do you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I believe the people I am planning to refer this movie to are going to enjoy it a lot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe the people I am planning to refer this movie to will be satisfied with the overall quality of the movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel confident that people will appreciate my recommendation to go watch this movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable with recommending this movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel morally obliged to recommend this movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel my friends expect from me to recommend this movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel pressured to recommend this movie	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't like to give movie recommendations in general	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am good at offering movie recommendations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I believe this is not my role to  
recommend this movie

☐ ☐ ☐ ☐ ☐ ☐ ☐

Q22: How old are you?

\_\_\_\_\_

Q23: What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

Q24: Highest degree of education achieved:

- ☐ Lower than High School Diploma
- ☐ High school degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ PhD

Q25: What is your current employment status?

- ☐ Employed full-time
  - ☐ Employed part-time
  - ☐ Unemployed
  - ☐ Student
  - ☐ Retired
  - ☐ Others (Please Specify) \_\_\_\_\_
- 

Q26: This interview has been completed in:

- ☐ Tilburg
- ☐ Rome

Caro/a rispondente,

Grazie per aver scelto di partecipare in questa ricerca, il tuo aiuto è molto apprezzato.

Questo studio è condotto da Alessandro Falcetti, studente di Marketing Analytics all'Università di Tilburg. Nei prossimi 5 minuti, ti farò alcune semplici domande riguardanti il fenomeno del passaparola nell'industria cinematografica.

Puoi star certo che tutte le risposte fornite saranno mantenute nella massima riservatezza. In linea con le politiche universitarie, i dati dello studio saranno utilizzati solo a scopo didattico e non saranno raccolti dati personali dai quali tu possa essere identificato (ad es. Nome, e-mail, ecc.).

Iniziamo!

Q2: Qual è il titolo del film che hai appena visto al cinema?

---

---



Q3: Hai già visto questo film in precedenza?

- ☐ Sì
- ☐ No
- 

Q4: Qualcuno ti ha consigliato questo film prima che tu lo guardassi?

- ☐ Sì
- ☐ No

Q5: Come valuti il tuo rapporto con la persona che ti ha consigliato di vedere il film:

	Estrema mente debole	Moderata mente debole	Abbastanza debole	Né forte né debole	Abbastanza forte	Moderata mente forte	Estremamente forte
La tua relazione con il referente è:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6: Ora indica quanto credi che queste dichiarazioni siano probabili o improbabili:

[illegible]

Q7: è il tuo rapporto con la persona che ti ha consigliato il film?

- ☐ Amici
- ☐ Conoscente
- ☐ Fidanzato/Fidanzata
- ☐ Membro della famiglia
- ☐ Sconosciuto
- ☐ Collega
- ☐ Altro (per favore specificare) \_\_\_\_\_

*Display This Question:*

*If Did someone recommend you this movie before you watched it? = Yes*

Q8: In che modo hai ricevuto il consiglio sul film che ti è stato consigliato?

- ☐ Faccia a faccia
- ☐ Tramite social network
- ☐ Al telefono
- ☐ Via SMS / Messaggi istantanei
- ☐ Tramite email
- ☐ Altro (per favore specificare) \_\_\_\_\_

Q9: Indica ora il tuo livello di soddisfazione nei confronti del film:

	Fortemen te in disaccord o	Disaccor do	Abbastan za in disaccord o	Né d'accord o né in disaccor do	Abbastan za d'accordo	D'accord o	Fortemen te d'accordo
Sono soddisfatt o della mia esperienz a complessi va con il film	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nel complesso , non sono soddisfatt o del film	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10: Indica ora il tuo livello di soddisfazione nei confronti della qualità del film:

	Estremamente Insoddisfatto	Moderatamente Insoddisfatto	Leggermente Insoddisfatto	Né Soddisfatto né Insoddisfatto	Leggermente Soddisfatto	Moderatamente Soddisfatto	Estremamente Soddisfatto
Quanto sei soddisfatto a riguardo della qualità del film?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q11: Si prega di valutare la qualità del film utilizzando una scala da 1 a 11, con 1 uguale a "Poor" e 11 uguale a "Eccellente":

	Povero	2	3	4	5	6	7	8	9	10	Eccellente
Qualità degli attori	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Qualità della storia	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Qualità sulla produzione	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Qualità generale dell' Advertising/ Pubblicità	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12: La mia esperienza complessiva con il film è stata:

	1	2	3	4	5	6	7	8	9	10	11	
Non piacevole	(	(	(	(	(	(	(	(	(	(	(	Piacevole
Noiosa	(	(	(	(	(	(	(	(	(	(	(	Interessante
Sgradevole	(	(	(	(	(	(	(	(	(	(	(	Piacevole
Spiacevole	(	(	(	(	(	(	(	(	(	(	(	Attrante
Deprimente	(	(	(	(	(	(	(	(	(	(	(	Eccitante
Non divertente	(	(	(	(	(	(	(	(	(	(	(	Divertente
Irritante	(	(	(	(	(	(	(	(	(	(	(	Non irritante

*Display This Question:*

*If Have you already seen this movie before? = Yes*

Q13: A quante persone, approssimativamente, hai consigliato questo film?

---

Q14: A quante persone, approssimativamente, hai intenzione di consigliare questo film?

---

Q15: Ora indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni:

[illegible]



Q16: Ora indica quanto sei d'accordo o in disaccordo con le seguenti affermazioni:

	Fortemente in Disaccordo	Disaccordo	Piuttosto in Disaccordo	Né d'accordo né in disaccordo	Abbastanza D'accordo	D'accordo	Fortemente d'accordo
La mia opinione riguardo i film sembra non contare sulle altre persone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando qualcuno sceglie un film non si rivolge a me per un consiglio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Altre persone raramente mi chiedono consigli sulla scelta dei film da guardare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Le persone che  
conosco  
scelgono quale  
film guardare  
basandosi su  
ciò che io gli  
ho consigliato  
in precedenza

☐☐☐☐☐☐☐

Spesso  
convinco le  
altre persone a  
vedere i film  
che mi  
piacciono.

☐☐☐☐☐☐☐

Ho spesso  
influenzato le  
opinioni delle  
persone sui  
film popolari

☐☐☐☐☐☐☐

Q17: Indica ora in una scala da 1 a 7, avendo 1 uguale a "Non mi piace per niente" e 7 uguale a "Mi piace tantissimo", quanto ti piace andare al cinema.

- ☐ Non mi piace per niente
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ Mi piace tantissimo

Q18: Quante volte vai al cinema in un mese?

- ☐ Più di una volta al mese
- ☐ Una volta al mese
- ☐ Una volta ogni 3 mesi
- ☐ Due volte all'anno
- ☐ Una volta all'anno
- ☐ Praticamente mai
- ☐ Altro (Per favore specificare) \_\_\_\_\_

Q19: Con chi vai al cinema più spesso?

Selezionare più di una risposta se necessario.

- ☐ Amici
- ☐ Familiari
- ☐ Vado da solo
- ☐ Vado con il mio Partner
- ☐ Non vado al cinema
- ☐ Altro, (per favore specificare)

---

Q20: Che genere di film preferisci guardare al cinema?

Selezionare più di una risposta se necessario.

- ☐ Commedia
- ☐ Horror
- ☐ Romantico
- ☐ Azione
- ☐ Dramma
- ☐ Western
- ☐ Thriller
- ☐ Animato
- ☐ Classico
- ☐ Documentario
- ☐ Altri, per favore specificare) \_\_\_\_\_

-----

Q21: Indica ora in che misura sei d'accordo o in disaccordo con le seguenti affermazioni:

[illegible]

Percepisco  
che i miei  
amici si  
aspettano  
che io  
consigli  
questo film

Mi sento  
agitato nel  
dover  
consigliare  
questo film

**Non mi  
piace dare  
consigli sui  
film in  
generale**

Sono bravo a  
dare consigli  
sui film

Credo che consigliare i film non sia il mio ruolo

Q22: Quanti anni hai?

---

Q23: Qual è tuo genere?

☐ Uomo

☐ Donna

☐ Altro

Q24: Il più alto grado di istruzione raggiunto:

☐ Inferiore al Diploma di scuola superiore

☐ Diploma di scuola superiore

☐ Laurea Triennale

☐ Magistrale / Master

☐ Dottorato di Ricerca/ PhD



Q25: Qual è la tua attuale posizione lavorativa?

☐ Impiegato a tempo pieno

☐ Impiegato part-time

☐ Disoccupato

☐ Studente

☐ Pensionato

☐ Altro (Per favore specificare) \_\_\_\_\_

Q26: Questa intervista è stata effettuata nella città di:

☐ Tilburg

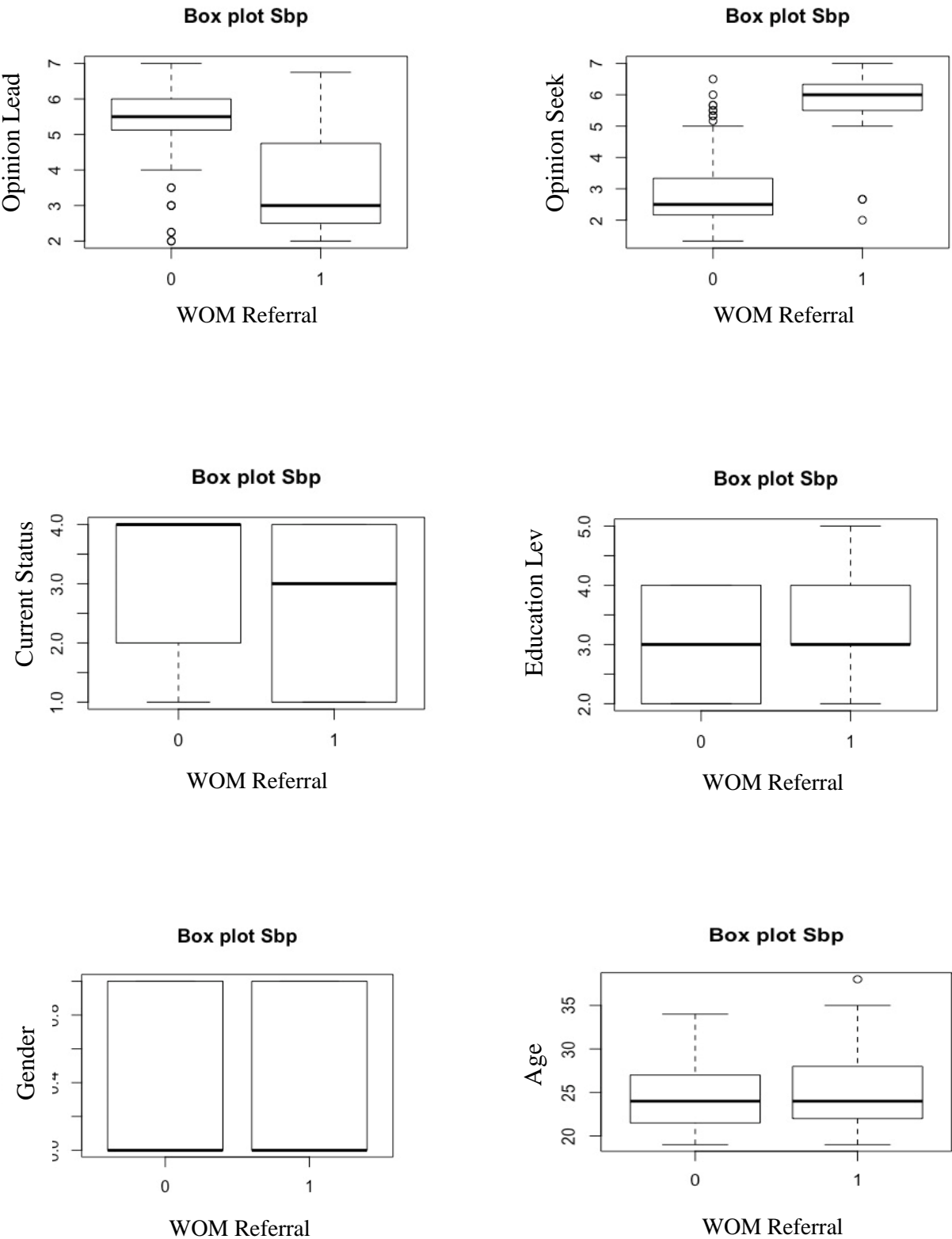
☐ Roma

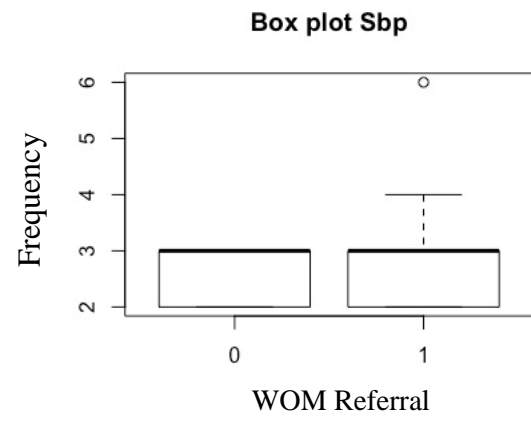
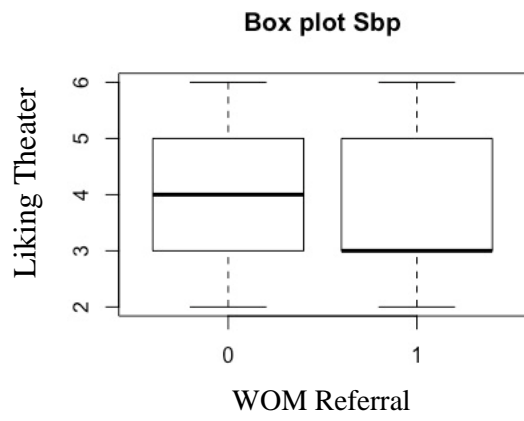
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Propensity Score Matching – Covariates distribution in the control and treatment group

Figure 11: Covariates distribution in the control and treatment group





Thesis Summary:



*Department of Business and Management*

*Chair of Marketing Metrics*

Analyzing the effect of Exposure to Referral Program on  
Customer Referral Value

*A Cross-National comparative research between the Netherlands and Italy*

**SUPERVISOR:**

Costabile Michele

**CO-SUPERVISOR:**

Romani Simona

**CANDIDATE:**

Falcetti Alessandro

ACADEMIC YEAR 2019/2020

## Relevance of the Topic

*“People influence people. Nothing influences people more than recommendation from a trusted friend. A trusted referral influences people more than the best-broadcast message. A trusted referral is the Holy Grail of advertising.”*

Mark Zuckerberg, Facebook CEO and Founder

Evidence from WOM literature review suggests that customers acquired through seeded word-of-mouth (WOM) campaigns or referral programs have higher margin and lower churn probability than customers acquired with different acquisition channels. As a result, the topic of social and interpersonal influence among customers and the question of how to leverage it to acquire and retain valuable customers is attracting renewed and growing interest from marketing practitioners and academics as well.

Within this frame of reference, in this report we analyzed the effect of the Exposure to WOM referral programs on Customer Referral Value. Customer referral programs are an attractive way to acquire customers since they do not require any data on the connection among customers, are simple to administer and allow for a certain degree of targeting.

Recently, a study by Schmitt, Skiera and Van den Bulte (2011) documented significant and considerable economic post-acquisition benefits. Indeed, referred customers had a higher contribution margin and a higher retention rate compared to non-referred customers. Higher contribution margins and higher retention rates combine into a customer lifetime value (CLV) that is 16% - 25% higher than customers acquired through different customer acquisition channels. In addition, WOM is not only identified as relatively cheap compared to other acquisition tools (e.g., advertising campaigns), but it is also perceived as a more persuasive, credible and a better-targeted source of information.

This is extremely relevant for marketers who would like to invest and implement marketing tactics that attract the most profitable customers while closely monitoring and limiting expenditures on marketing tactics that tend to attract relatively less profitable customers.

Indeed, it is evident that the creation of value by customers for firms occurs through a more elaborate mechanism than through purchase alone. As active participants and collaborative

partners in relational exchanges, customers co-create value with the firm through involvement in the entire service-value chain. From a providers' point of view the value of an individual customers needs to comprise all direct and indirect contributions of the customers that enable the service provider to reach his goals. These contributions include monetary and non – monetary elements like behavioral manifestations of customer engagement which can be both positive (i.e. referring the product/service to people in their network) and/or negative (i.e. organizing a public action against a firm).

On account of this, several researchers pointed out the importance of recruiting customers not only based on their customer lifetime value (CLV) but also taking into account their customer referral value (CRV), that characterize the number of WOM referrals a customer makes.

Specifically, researchers defined this metric as the individual customer's contribution to the firm's goals due to his or her referral behavior, which is determined by the number of potential customers the user of a certain product/service can reach and influence with positive, negative or neutral information within a certain period.

This is of great interest for marketers because CRV measurement and analysis helps determine which customers should be targeted for WOM referral programs campaigns with the purpose of enhancing and consolidating the flow of information in the market. Many firms still go on the traditional route, relying on the CLV metric to make such determination. However, it is clear that customer referral value and customer lifetime value are not interchangeable metrics and researchers unexpectedly ascertained that customers with a high customer lifetime value are not necessarily the same customers as those with a high customer referral value. Indeed, if customer lifetime value (CLV) and customer referral value (CRV) metrics were simply correlated, any difference between these metrics would not be particularly interesting from a managerial perspective. Indeed any action that would increase customers' lifetime value would immediately translate into higher referral value. But this is not the case. When researcher analyzed the specific referral behavior of customers with different CLV values, they found that a high CLV is not a good predictor of CRV and consequently it is a very debatable proxy for the management of customer value. Therefore, it is clear that in order to manage the customer base value efficiently, both metrics are required.

By adopting a more comprehensive view, firms may benefit from offering incentives based not only on the customer lifetime value of the referred customer but also on his/her willingness to refer

among their peers, thus obtaining a complete assessment of the value components of the customer base.

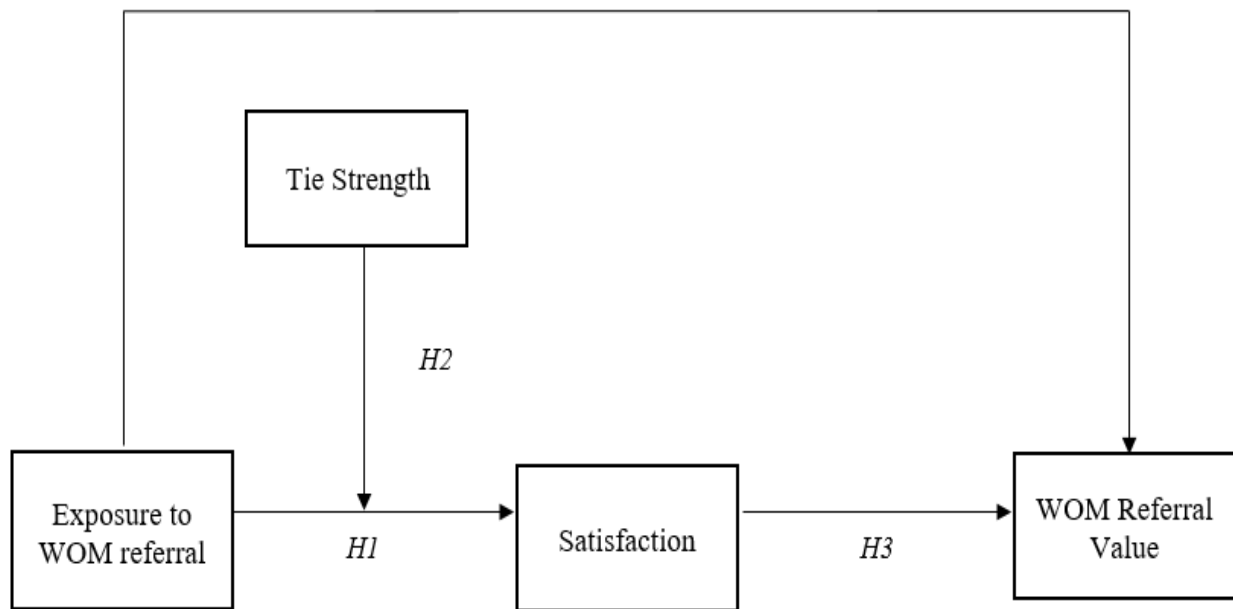
## **Research Question Development and the Conceptual Framework**

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However, uncertainty about the benefits of stimulated WOM is frustrating managers facing demands to increase their marketing return on investment and considering whether and how to use WOM referral campaigns. In this report, we analyze the stimulating relationship between WOM referral exposure and customer referral value, taking into account the self-selection bias by which customers select themselves into being exposed to WOM referrals.

The research question address this managerial issue by investigating and evaluating the referral value of customers exposed to WOM referral programs and customers not exposed to WOM referral program, where customer referral value is defined as the individual customer's contribution to the firm's goals, in this case to recommend a movie, due to his or her referral behavior. In order to appropriately proceed with the analysis and control for the self-selection mechanism, propensity score matching technique has been performed on R-studio using the *MatchIt* package. In addition to measuring the effect of referral exposure to a customer's subsequent referral value, this study also contributes to the WOM literature by shedding lights on the mechanisms driving the referral behavior of customers. Understanding these underlying mechanisms provides guidelines on how to improve WOM strategies. With the purpose of accomplish this, we perform a moderated-mediation analysis that tests the mediating role of customer satisfaction. Initially the moderated-mediation analysis was conducted among the entire sample composed of 117 respondents. Subsequently the moderated-mediation analysis was conducted separately on the Italian and Dutch sample in order to examine potential differences among the relationship between WOM referral exposure and customer referral value in two different cultural contexts.

The model also tests whether the extent to which the referred customer receive a referral from a strong or weak tie moderates the mediating role of customer satisfaction on WOM referral value.



### Theoretical Framework and Hypotheses development process

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This research suggests that exposure to WOM referral can influence the referral value of customers through the mediating effect of satisfaction. The positive effect of customer satisfaction on WOM referral intention and behavior is well established in the literature (Anderson 1998; De Matos and Rossi 2008). Indeed, customer satisfaction is considered one of the main antecedents of WOM behavior. A satisfied customer is likely to share his/her consumption experiences with other people. However, a requirement for establishing the mediating role of satisfaction is to show that WOM referral exposure affects satisfaction.

#### *The effect of WOM Referral Exposure on Customer Satisfaction*

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In line with Shankar et al. (2003), we define satisfaction as the pleasurable fulfillment of service. The dominant model for conceptualizing and measuring customer satisfaction in the relevant literature has been the expectancy disconfirmation theory. This view holds that customers evaluate a product or service performance and compare their evaluation with their expectations prior to



purchase or consumption (Oliver 1980). Expectations delineate customer's anticipations about the performance of products and services, while perceived performance investigates the customer's experience after using products or services. When the actual performance of a specific product or service cannot meet the customer's expectation, negative disconfirmation will occur, leading to customer's dissatisfaction.

On the other hand, if a product or service outperforms expectations (positive disconfirmation) post-purchase satisfaction will result. We proposed that the referral a customer receives act as information prior to purchase upon which the customer could base his/her expectations regarding performance quality.

In the motion-picture industry, the role of WOM in forming such expectations is known to be particularly relevant because of the experiential and intangible nature of movie consumption experiences, which makes it hard for customers to form expectations by other means.

In addition, the referrals received by customers are positive in nature and made by customers who positively evaluated the product or service. The more someone enjoyed a consumption experience, the higher is the likelihood to share his positive experience and refer to his/her friends. Through this mechanism, referred customers are likely to receive above-than-average positive information about a product or service, compared to non-referred customers, and so to form higher expectations about the referred product or service, than non-referred customers.

Consequently, this study predicts prospective customers exposed to referrals to show a higher level of expectations before the consumption experience than non-referred customers, and hence lower satisfaction (Oliver 1980). This leads to the following hypothesis:

*H1: Customers exposed to WOM referrals are, on average, less satisfied with their product or service consumption experience than customers not exposed to WOM referrals.*

### ***The moderating role of Tie Strength on Customer Satisfaction***

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While we expect a negative and significant main effect of WOM referral exposure on customer satisfaction, it is possible that some of the customers who are exposed to WOM referrals turn out to be more satisfied with their product choice than others. One important factor that can moderate

the relationship between the WOM referral exposure and customer satisfaction is the degree to which a referral's recipient receives referrals from a strong or weak tie.

WOM communication takes place in a social relationship that can be primarily characterized by the strength of the tie between the information receiver and sender. Accordingly, a primary question in understanding the role of social influence in the diffusion of new products, ideas, behavior, and outcomes is how heterogeneity in social relationships between individuals affects the influence they exert on one another.

Several indicators of tie strength have been proposed, most notably by Mark Granovetter in his seminal work *The Strength of Weak Ties*. Granovetter differentiated between strong and weak ties and proposed the weak ties hypothesis: the stronger the tie between any two people, the higher the fraction of friends they have in common. Much of the current methodology centered on tie strength has stemmed from Granovetter weak ties hypothesis and his proposed four dimensions of tie strength: the amount of time spent interacting with someone (frequency and duration of the relationship), the level of intimacy (mutual confiding), the level of emotional intensity (closeness), and the level of reciprocal services which characterize the tie. These categories have simplified the definition and quantification of numerous possible predictors of tie strength, some generalizable to any network, and some specific to a limited number of social networks.

As expected, individuals within strong ties are more readily available and result in frequent interpersonal information flow where customers are actively involved in WOM behavior, and where a transfer of information is likely arise.

Interestingly, researchers found also that individuals who are in a strong tie are more likely to share information than individuals in weak ties and, at the same time, they are more willing to spend time and effort on behalf of each other (Reagans & McEvily, 2003). Indeed, those with strong ties are likely to be in close physical or psychological proximity to each other, which facilitates the behavior of information seeking and sharing (Reingen and Kernan, 1986). This is supported also by Bone (1995), who points out that WOM generally occurs more in groups with strong relations compared to groups with weak relations. The motivation is that information obtained from strong-tie sources is perceived to be more reliable and trustworthy than impersonal information or information from superficial acquaintances or strangers (Kirby and Marsden, 2006). Influential recommendations require knowledge of both the product/service and the person receiving the recommendation, especially for products with affective evaluative cues. Strong ties

are likely to be knowledgeable of each other's preferences and the relevance of their information. Compared to firms and other untargeted sources of information, the referring customer is likely to be familiar with the referred customer's preferences, making his or her referrals well matched with the recipient's preferences and needs.

Considering previous studies, this research predicts that the extent to which customers receives referrals from a referrer who is perceived as a strong tie will moderate the negative effect of WOM referral exposure on customer satisfaction. Specifically we expect referred customers who typically receive referrals from a strong tie to show a higher level of satisfaction than customers who typically receive referrals from a weak tie.

The following hypothesis summarizes the above discussion:

*H2: The degree to which a referral's recipient receives referrals from a strong tie moderate the relationship between the exposure to WOM referrals and satisfaction, in that customers who receive referrals from a strong tie are more satisfied with the product or service consumption experience than customers who receive referrals from a weak tie.*

### ***Effect of Customer Satisfaction on Customer Referral Value***

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Empirical studies investigating the antecedents of word of mouth typically focus on the direct effects of consumer's satisfaction and dissatisfaction with previous purchasing experiences. The higher the satisfaction level of an individual with a consumption experience, the greater the amount of recommendations he is likely to make. It is not surprising, therefore, that several studies have found customer satisfaction to be a positive and significant antecedent of customer referrals in different product categories and services such as for a new car purchase, movies consumption experience, law firms, nonprofit organizations, fast-food restaurants, financial services and many more. Respectively, the likelihood of customers spreading WOM will depend on their satisfaction level for at least two reasons. First, the extent to which the product or service performance exceeds the customer's expectations might motivate him or her to tell others about his or her positive consumption experience. Secondly, to the extent that customer's expectations are not fulfilled, possibly creating a customer regret experience, the customer will engage in WOM behavior as a form of "venting" his or her negative emotions, such as anger and frustration, reducing anxiety,

and seek retaliation (Anderson 1998; Oliver 1997; Sweeney et al. 2005). On the other hand, a very satisfying product experience is more memorable and thus more likely to be talked about than a less satisfying product experience.

All these motives suggest that the more satisfied a customer is, the more likely he/she will share his/her consumption experiences with others. A recent meta-analysis by De Matos and Rossi (2008) gives strong empirical support for this positive relationship.

Consistent with these findings, this research proposes the following hypothesis.

*H3: Customers who are more satisfied with a product or service consumption experience have a higher referral value than customers who are less satisfied.*

### ***Explaining the Cross-National nature of the research and the adopted Data Collection method***

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National-cultures is gaining more and more importance in marketing research as a general theory. In international marketing, due to the diversity of foreign countries, comparative studies of markets and consumers are needed before marketing strategies can be successfully implemented abroad. In view of that, we decided to run the analysis on two different sample, one composed entirely by Dutch respondents and one composed entirely by Italian respondents.

Cross-national surveys can be considered to have some extra layers of survey design, in addition to the aspects that must be considered for any survey carried out in a single country. The first crucial component is to decide which countries to include in the study. As already specified, data for this research has been collected among movie viewers living in the Netherlands and in Italy, specifically in the cities of Tilburg and Rome. The second component of design unique to cross-national surveys is the choice of how to distribute the sample over countries. Often, reflecting the recognition of countries as key analysis domains and between-country differences as key estimates, the choice is to aim for equal sample sizes in each country. Indeed, the precision of such estimates is likely to be maximized by attempting to achieve approximately equal effective sample size per nation. However, in this research we collected respectively 72 respondents in the Netherlands and 45 in Italy, for an overall sample of 117 respondents. The third component of design that has special characteristics in the case of cross-national surveys is the identification of meaningful relevant concepts and items to study. Indeed, the analyzed concepts and construct must

be relevant and conceptually equivalent in both nations. With the aim of achieving meaningful cross-cultural comparison data, the issues of equivalence and response bias has to be addressed. Response bias is the systematic tendency to distort responses to rating scales so that observed scores are unrelated to the true score of the individual by either selecting extreme or modest answers (extreme or modesty response bias) or a shifting of responses to either end of the scale (acquiescence response bias). The cultural tendencies belonging to different cultural groups are likely to change the responses of participants and make them incomparable across cultural groups, therefore resulting in a bias.

In order to exclude the possibility of this error we adopted a forward-backward translation procedure, which helped us to obtain an equivalent questionnaire in both cultural contexts. The objective of the adopted translation process is to maximize the comparability of survey questions across different cultures and languages (original language: English; target language: Italian) and reduce the measurement error related to question design and meaning. The main advantage of forward translation is that the translator can be guided not to focus on how the item will translate linguistically into the target language, but on the psychological significance of the items. In a well-devised forward translation process, each item that needs to be translated has a clear correspondence with its intent and is translated based on that specific intent. In this way, the researcher not only translates the word by word but is able to take into account their intent and give the target-language form the correct twist in order to capture the intended meaning.

However, the reconciled forward translation has been independently back translated (i.e. translate back from Italian language into English language) to ensure the accuracy of the translation. The backward translation was designed not to assess the linguistic equivalence, but the conceptual and cultural equivalence. As with the forward translation, two independent translators performed the backward translation. The result of the backward-translation process was a back-translated version of the reconciled forward translation. Focusing on the conceptual equivalence and on specific items that were suspected to be particularly sensitive to translation problems, the back-translated version was finally compared and assessed item by item with the original English version to ascertain the complete conceptual equivalence. As final step, in order to determine that the questionnaire was entirely understandable in both contexts, it was necessary to test the instruments on the target population. The adopted questionnaire pretest procedure uses a cognitive interviewing approach in that it provides an overall overview of how respondents process and interpret the

survey instruments. In this situation, the interviewer asked respondents about any potential problems they observed while the subject was completing the questionnaire (e.g. mistakes, erasures, questions that took a long time to complete or appeared overly difficult, etc.). After the instruments have been sufficiently and comprehensive reviewed, a few general questions were asked regarding the questionnaire before ending the pretest meeting. Finally, these individual items debriefing helped us to determine that the questionnaire was completely understandable and conceptually equivalent, therefore ready to be administered to participants.

### *Italian and Dutch samples: Descriptive statistics*

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The data collection process started on June 15th and terminated on June 28th. Specifically, during the first week, data has been collected in the Netherlands (Pathè Movie Theater, Tilburg) while during the second week data has been gathered in Italy (Cinema Lux, Rome). Overall, the final sample consists of 126 respondents who answered the questionnaire immediately after the movie consumption experience at the movie theater. However, we excluded respondents for which we could not match the self-reported movie title with the IMDb repository, as well as movies for which there was missing data. The final sample consists of 117 respondents (64 Female and 53 Male), of whom 72 living in Tilburg and 45 living in Rome. Precisely, 34 male and 38 female participants answered the questionnaire in Tilburg while 19 male and 26 female participants filled in the questionnaire in Rome. Respondent's age ranges from 19 to 38, but the majority of the respondents, about 88%, range from 19 to 30 years old. The average age in the sample is 25 years old. More than the half of the participants are students (54.70%), but there are also 21 full-time employees and 20 part-time employees. Among the respondents, 61 mentioned having been exposed to WOM referrals before watching the movie, while the remaining 56 were not exposed to WOM referrals. Between the 61 respondents who declared to have been exposed to referral programs, 28 received the referral through Social Media networks, 18 received the referral face-to-face, 9 via phone and the remaining 5 via SMS/instant messaging. Moreover, among these 61 respondents who declared to be exposed to referral programs, 24 (almost 40%), stated they received the referral from a friend, while 15 from an acquaintance, 8 from the partner, 8 from strangers, 4 from a family member and 2 from some colleagues. The majority of the respondents,

112, declared to be exposed to the identified movie for the first time, while only 5 respondents informed to have already seen the movie they indicated in the questionnaire. Furthermore, 48 (41%) of the respondents stated to go to the movie theater more than once in a month, 63 (53%) once a month, 5 twice a year and only 1 almost never. Additionally, respondents seem to prefer going to the movie theater mostly with friends, 87%, and with the partner 76%. Nevertheless, 32 respondents prefer going to the movie theater with family members and 24 prefer going alone. The preferred movie genres for the respondents is comedy, with 90% of the participants indicating it as best movie genres to watch at the movie theater. However, also horror, thriller, action and romantic movies are well appreciated, with a percentage of respondents indicating them as most preferred movie genres respectively equivalent at – 86% - 80% - 70% and 47%.

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***Statistical Analysis: Propensity Scores Matching + Moderated-Mediation Analysis***

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The propensity score matching technique has been performed using the open-source software R by installing the MatchIt package, which easily enables R users to conduct the propensity score matching calculation. Since in observational studies assignment of subjects to the treatment and control groups is not random, the estimation of the effect of a treatment condition may be biased by the existence of confounding factors. Propensity score matching (PSM) is a way to “correct” the estimation of treatment effects by controlling for the existence of these confounding factors based on the logic that the bias is reduced when the comparison of outcomes is performed using treated and control subjects who are as similar as possible. Specifically, PSM is a tool for causal inference in non-randomized studies that allows for conditioning on a large set of selected covariates and thus to create balance between the treated and control group. In observational studies, the problem of causal inference is how to estimate treatment effects (i.e. being exposed to WOM referral) in which a group of units is exposed to a well-defined treatment, but unlike an experiment, no systematic methods of experimental design are used to maintain a control groups (i.e. participants not exposed to WOM referral). The logic behind propensity score methods is that balance on observed covariates is achieved through careful matching on a single score – the estimated propensity of selecting the treatment, or simply the propensity score. This propensity score is defined as the probability of receiving treatment (i.e. being exposed to WOM referral) based on a set of measured covariates:

$$E(x) = P(Z = 1 | X)$$

Where  $E(x)$  is the abbreviation for propensity score,  $P$  a probability,  $Z=1$  a treatment indicator with values 0 for control and 1 for treatment, the  $|$  symbol stands for conditional on, and  $X$  is a set of observed covariates. In other words, the propensity score determines how likely a respondent is to select the treatment condition given observed covariates. This score is valuable since it is used to match participants from the treatment condition to participants from the control condition who have a very similar estimated propensity score. The goal is to approximate a random experiment, eliminating many of the problems that comes with observational data analysis. By adopting this procedure, we were able to form a matched dataset composed of 112 respondents, 56 in the treatment group and 56 in the control group.

### ***Moderated-Mediation Analysis on the Matched sample (112 respondents)***

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According to the mediation literature, the total effect of exposure to WOM referrals on WOM referral value has been firstly decomposed in an indirect (mediation) effect and a direct effect. The total effect informs us whether customers exposed to referrals differ in their referral value from the customers not exposed to WOM referrals, while the indirect effect allows to test whether the level of satisfaction mediates the relationship between receiving and giving WOM referrals. We report these effect for three values of the moderating variable: a low value equal to the mean minus one standard deviations (weakest tie), the mean value, and a high value equal to the mean plus one standard deviations (strongest tie). We report the 95% bootstrapped (10.000 iterations) confidence intervals (CI) around these effects (Preacher et al. 2007; Zhao et al. 2010).

In order to analyze all three theorized hypothesis in SPSS, this research made use of the PROCESS macro developed by Hayes (2013). The macro was downloaded and installed into SPSS. The analysis resulted in simple mediation, simple moderation and conditional indirect effect analyses using model 4 and model 7 of the PROCESS macro. Multiple regression analysis was conducted to assess each component of the proposed mediation model. The results indicate the association between WOM referral exposure (IV) and Customer referral value (c-path), the effect of WOM referral exposure on customer satisfaction (a-path), the association between customer satisfaction and the dependent variable (b-path) and the association between WOM referral exposure and customer referral value, taking into account the role of the mediator, customer satisfaction (c'-path). The standardize regression coefficient between WOM referral exposure and customer



satisfaction (a-path) was negative and statistically significant ( $\beta = -1.07$ ,  $t(108) = -2.29$ ,  $p = .0242$ ) while the standardized regression coefficient between customer satisfaction and the dependent variable (b-path) customer referral value was positive and significant ( $\beta = .448$ ,  $t(112) = 21.28$ ,  $p < .0001$ ). Overall, the standardized indirect effect was  $(-1.05) (.43) = -.468$ . We tested the significance of this indirect effect using bootstrapping procedures. Unstandardized indirect effects were computed for each of 10,000 bootstrapped samples, and the 95% confidence interval was calculated and ranged from C.I. [-.92, -.11]. Thus, we ascertained that the indirect effect was statistically significant since the confidence interval did not contain zero. Given a significant indirect effect and an insignificant direct effect, we determined that the mediator, customer satisfaction, fully explains the variation of the dependent variable by the independent variable (full mediation). Moreover, as the results of this analysis confirm, customers who are more satisfied with their movie consumption experience have a higher referral value than customers who are less satisfied. On the grounds of this hypothesis 3, which predicted that customers who are more satisfied with their movie consumption experiences have a higher referral value than customers who are less satisfied, has been confirmed as well. Subsequently, first stage moderated mediation analysis has been used to estimate and test hypotheses about the paths of causal influence from WOM referral exposure on customer satisfaction, through the proposed moderator Tie strength. The interaction effect of WOM referral exposure and tie strength on customer satisfaction has been found to be positive and significant ( $\beta = 34.22$ ,  $t(106) = 2.69$ ,  $p = .0081$ ). Thus, the moderation effect of tie strength on the relationship between WOM referral exposure and customer satisfaction was established. Moreover, results suggested that the moderator, was negatively associated with customer satisfaction with a significant effect ( $\beta = -33.2$ ,  $t(106) = -2.62$ ,  $p < .0101$ ). Notably, the confidence intervals surrounding the indirect effect of Tie strength did not span zero, which indicates that a significant indirect effect is present at low, moderate and high levels of the moderator. Specifically for low value of the moderator, equal to the mean minus one standard deviation, the effect was negative and equal to -5.96, while for the moderate level of the moderator the effect became positive and equal to 83.51. Lastly, for the high value of the moderator, the effect became even bigger reaching a value equal to 175.3. Therefore, this leads us to confirm Hypothesis 2 which predicted that the degree to which a referral's recipient receives referrals from a strong tie moderate the relationship between the exposure to WOM referrals and satisfaction, in that customers who receive referrals from a strong tie are more satisfied with the product/service

consumption experience than customers who receive referrals from a weak tie. This means that the degree to which a referral's recipient receives referrals from a strong tie (i.e. family member, Partner) strongly moderate his/her level of satisfaction with the movie consumption experience. Indeed, customers who received a referral from a strong tie, show a higher level of satisfaction with their movie consumption experience, than customers who received the movie referral from a weak tie (i.e. strangers, acquaintances).

### ***Cross-national comparative research between the Netherlands and Italian sample***

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In order to proceed the analysis with cross-national comparison between the respondents in Tilburg and in Rome, we divided the dataset composed of 112 respondents in two sub-samples taking into account the country of the respondents. Precisely, 71 respondents (38 male and 33 female) answered the questionnaire in Tilburg while the remaining 41 (22 male and 19 female) answered the questionnaire in Rome. Respectively, 41 respondents were exposed to WOM referral in the Netherlands while only 20 confirmed to have been exposed to a referral program in Italy.

The average age in the Italian sample has been found to be 24 years old, while in the Dutch sample the average age was 26 years old.

A moderation-mediation analysis was conducted in both samples, in order to gather insights into the WOM diffusion process in two different cultural context, characterize by different social values and norms.

However, by running the analysis no particular differences were discovered between the Italian and Dutch samples. Indeed the results were in line with the result from the overall sample, confirming our three hypothesis in both subsamples as well. This means that the cultural differences did not affect any of the propose mechanism in the study. Both Dutch and Italian respondents were more satisfied when they received a referral from a strong tie compared to a weak tie.

## *Discussion and Managerial Implication*

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Our research reveals a number of interesting findings about the relationship between receiving and giving WOM referrals. Firstly, compared to previous research on WOM diffusion process, this study takes into account the endogenous selection process by which customers are exposed to WOM referrals by a non-random process, thus providing more relevance and support to the results. Overall, in contrast to previous research, the results show that, on average, being exposed to WOM referrals does not affect the number of referrals a customer will make in turn. This means that there is not a significant difference concerning the referral value of customers exposed to WOM referral and customers not exposed to WOM referrals.

Noteworthy, we obtained relevant insights in the mechanism that lead to these effects, initially on the overall sample and then separately for the Italian and Dutch sample.

As expected, we found that referred customers end up less satisfied than non-referred customers, confirming our Hypothesis 1. This is consistent with the disconfirmation of expectations account proposed by Oliver (1980), who stated that WOM referrals create unrealistic expectations about the movie a customer is about to view which are disconfirmed when seeing the movie, leading to lower the satisfaction level.

However, this result from the mediation analysis is also in contrast with some previous research suggesting that customers acquired through WOM might be satisfied customers

Lastly, by conducting the moderated-mediation analysis on both samples, in order to examine the moderator role of tie strength in the relationship between WOM referral exposure and customer satisfaction, we discovered that a key reason why customers exposed to referrals are less satisfied and subsequently spread less referrals, relates to the fact that referred customers tend to receive referrals from someone who is considered as a weak ties connection (i.e. strangers, acquaintances). When the strength of the relationship between the referrer and the referred customer is weak, like in the case with strangers or acquaintances, the referrals tend to be ill-matched with the receiver's movie preferences, and thus leading the level of satisfaction of the referred customer after the movie consumption experience to decrease significantly as a direct consequence. In the opposite situation, when the referrer and the referred customers share a strong tie relationship, the content of the referral is likely to be coherent and well-matched with the receiver's movie preferences,

leading the level of customer satisfaction to increase considerably after the movie consumption experience. Considering the results, despite the prevalence of the weak-tie hypothesis developed by Granovetter, the marketing value of strong versus weak ties needs to be reconsidered carefully. This finding support the idea that not all referrals are equally useful in influencing the flow of information in the marketplace. Indeed, effective movie recommendations should take the strength of the relationship between the referrer and the referred customer into account, and thus require knowledge of both the product and the person receiving the recommendation. In this way, the referrer suggestions will be perfectly matched with the referred customers' preferences, leading his/her satisfaction level to increase and the flow of information in the market to proceed fluently and efficiently.

This research offer a number of important managerial implications for firms interested in WOM acquisition strategies. While, WOM acquisition strategies have been found to attract valuable customers compared to other acquisition strategy (Schmitt et al., 2011), we discover that unless the referral came from strong ties connections, they are less likely to recruit customers with a higher referral value. Taking into account the self-selection mechanism, by which receiving a product recommendation is a non-random process, we discovered that customers exposed to WOM referral do not have significantly different referral value than customers not exposed to WOM referral. This means that they do not spread the recommendations to a larger number of people in their network.

For marketing managers this result implies that firms can count on high revenues stream from customers recruited via referrals but concurrently they should realize that these customers do not differ from those not exposed to WOM referral in terms of customer referral value. Consequently, if companies really want to increase the value of the customer base, they should focus on creating strong ties connection between their customers and prospects, and simultaneously to contain the flow of information between customers and prospects who share a weak tie relationship.

In conclusion, taking into account that the superiority of strong ties will increases progressively with the average connectivity of consumers, with the implication that strong ties will become particularly valuable also in the online world, marketer should seriously start to incorporate these dynamics into their marketing plans.