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*Research Article*

# THE RELATIONSHIP BETWEEN CONSUMER SKEPTICISM ON NEW PRODUCTS, REFERENCE GROUPS, AND PURCHASE INTENTION: A STUDY ON ELECTRIC CARS

# YENİ ÜRÜNLERE YÖNELİK TÜKETİCİ ŞÜPHESİ, REFERANS GRUPLARI VE SATIN ALMA NİYETİ İLİŞKİSİ: ELEKTRİKLİ OTOMOBİLLER ÜZERİNE BİR ÇALIŞMA

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**ABSTRACT**
This study aims to examine the relationships between consumer skepticism towards new products, reference groups, and purchase intentions, particularly in a relatively new market such as electric vehicles. The research focuses on how consumer skepticism is formed and the role of reference groups in this process. The field study was conducted using a survey method, collecting data from 264 participants in Turkey who either owned an electric vehicle or were considering purchasing one in the near future. Comprehensive statistical analyses of the participants revealed significant relationships between the variables and supported all hypotheses. The findings demonstrate that reference groups play a critical role in reducing consumer skepticism and increasing purchase intention through mediating effects; informative, utilitarian, and value-reflecting reference groups, in particular, strengthen these social mechanisms. The study makes significant contributions to the literature by explaining the theoretical mechanisms behind the formation of consumer perceptions in innovations with high uncertainty. It also emphasizes that consumer behavior should be evaluated not only through technical specifications but also through the holistic interaction of perceptual and social factors. These findings serve as principles for practical recommendations regarding the electric vehicle ecosystem.

**ÖZ**
Bu çalışma, özellikle elektrikli araçlar gibi nispeten yeni bir pazarda, yeni ürünlere yönelik tüketici şüpheciliği, referans grupları ve satın alma niyetleri arasındaki ilişkileri incelemeyi amaçlamaktadır. Araştırma, tüketici şüpheciliğinin nasıl oluştuğuna ve bu süreçte referans gruplarının rolüne odaklanmaktadır. Alan araştırması, Türkiye'de elektrikli araç sahibi olan veya yakın gelecekte satın almayı düşünen 264 katılımcıdan veri toplanarak anket yöntemi kullanılarak gerçekleştirilmiştir. Katılımcıların kapsamlı istatistiksel analizleri, değişkenler arasında anlamlı ilişkiler ortaya koymuş ve tüm hipotezleri desteklemiştir. Bulgular, referans gruplarının aracı etkiler yoluyla tüketici şüpheciliğini azaltmada ve satın alma niyetini artırmada kritik bir rol oynadığını göstermektedir; özellikle bilgilendirici, faydacı ve değer yansıtıcı referans grupları bu sosyal mekanizmaları güçlendirmektedir. Çalışma, yüksek belirsizlik içeren yeniliklerde tüketici algılarının oluşumunun ardındaki teorik mekanizmaları açıklayarak literatüre önemli katkılar sağlamaktadır. Ayrıca, tüketici davranışının sadece teknik özellikler üzerinden değil, algısal ve sosyal faktörlerin bütünsel etkileşimi üzerinden de değerlendirilmesi gerektiğini vurgulamaktadır. Bu bulgular, elektrikli araç ekosistemiyle ilgili pratik öneriler için ilkeler olarak hizmet etmektedir.

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## 1 | INTRODUCTION

Rapid technological advancements and the increasing environmental concerns associated with them are reshaping both the innovations businesses develop and consumers' responses to them (Kaya & Demirtaş, 2023, p. 87). This change makes new product development a strategic necessity for businesses, enabling them to remain competitive while simultaneously meeting sustainability expectations. From a consumer perspective, these developments necessitate evaluating products not only based on functionality and performance, but also on ethical consistency and environmental impact. This shared context also shifts the perspectives of both businesses and consumers, enabling innovative products to align businesses' strategic planning with consumers' personal sustainability preferences.

Even if the new products are essential as a strategic link, this should not lead to the mistake of assuming that consumers immediately accept and adopt every new product. According to Rogers (1962, p. 12), who defines innovation as *"an idea, practice, or project perceived as new by an individual or other adopter,"* two-thirds of consumers adopt an innovation only after the uncertainty is eliminated. This rate can be achieved particularly through risk perception, social interaction, communication, and the functioning of trust-building processes. Taking a business-based approach to the concept of innovation and dividing it into five categories: *"(1) producing new products, (2) implementing new production methods, (3) implementing new organizational forms, (4) opening new markets, and (5) securing new raw material sources*", Schumpeter et al. (2021, pp. xii-xiii) Support this view by emphasizing that the key to transforming innovation from an idea into a successful application is overcoming consumers' resistance to the new. At this point, it can be said that one of the main reasons for resistance to innovation is consumers' skepticism. (Kayar et al., 2025). According to Mani & Chouk (2018, p. 786); consumers are particularly doubtful about new products and services that have not existed before, especially those that could change their opinions and beliefs. Boush et al. (1994, pp. 165-166) also notices that consumers tend to be doubtful, particularly when they do not believe the messages businesses convey and lack trust in the business's intentions. It is thought that this increased skepticism leads consumers to perceive risk more intensely, experience changes in their purchasing decisions, approach the information they obtain during the purchasing process cautiously, and consequently, have negative experiences. However, consumers perceive a higher risk, especially with new products, due to unfamiliarity with the product and perceived ambiguity in its messages. (Popielarz, 1967, p. 368) Reinforce the idea that consumers will experience intense skepticism towards new products.

According to Sääksjärvi & Morel (2010), the pursuit of information plays a crucial role in reducing or eliminating doubt. The reliability, accuracy, and generalizability of the information obtained are just some of the criteria that demonstrate the importance of information for consumers. Solomon & Russell (2024, pp. 370-371) state that the more individuals are influenced by another person or persons while seeking information, the more power that person or persons appear to have over the individual. This situation is called *social power*. While there are various types of social power, one of the most important social forces that influences individuals and is considered a source of information is reference groups, which can be defined as *"real or imagined groups that significantly influence an individual's evaluations, goals, or behaviors".* Numerous studies have shown that reference-group effects influence individuals' purchasing intentions, and recent studies emphasize the significant impact of reference groups on purchasing intentions for new products (Chang et al., 2024; Mi et al., 2019; Zhong, 2025).

Although Robert Anderson did the earliest work on the invention of the electric car in the early 1880s (Dennis & Urry, 2013) Electric cars became quite popular, especially in the early 1900s. Entrepreneurs such as Ferdinand Porsche, Thomas Edison, and Henry Ford devoted considerable effort to their development and mass production, their commercialization and acceptance in the market were hampered by many reasons, such as their significantly higher cost compared to gasoline and steam-powered vehicles, the faster takeover of the market by developments in internal combustion engines, and the low operating speed of electric cars, the difficulty of charging them, and the structural unsuitability of roads for these vehicles. (U.S. Department of Energy, 2014). However, this stagnation gave way to a revitalized market after the 1980s, driven by several advantages, including the increased need for repairs and upgrades due to the use of higher technology in electric vehicle production, lower fuel costs, the possibility of home charging and the increasing availability of refueling stations, thus reducing the likelihood of finding refueling centers, lower air pollution, and benefits in terms of both environmental impact and public health. (Ortar & Ryghaug, 2019; U.S. Department of Energy, 2025).

Considering this revitalized market, especially with the projected increase in global vehicle sales by 2025, reaching 20% of all vehicles, and electric vehicle sales increasing by 30%, the growing number of new consumers in this increasingly attractive market is also noteworthy. (Wimmer & Neuhausen, 2026). However,

it should be noted that significant increases in electric vehicle sales have been observed in countries such as Vietnam, Thailand, Turkey, and Indonesia compared to previous years. Turkey has shown significant growth with a market share reaching 22%, benefiting from a combination of favorable fiscal policies, strong domestic production, and cost-competitive Chinese imports. (Sen, Teter, Kreutzfeldt, & Miller, 2026). In such a rapidly growing market, examining the behavior of both existing and new consumers will facilitate understanding market dynamics. Consumers who feel secure in this market, often considered new to them, will play a significant role in shaping the market in the future. In this respect, understanding who consumers turn to for information, their satisfaction with their purchases, and their experiences during the purchasing process are creating new areas of research.

This study aims to examine the relationships among consumer skepticism about new products, reference groups, and purchase intentions, particularly for electric vehicles, which are considered a relatively new market. It is expected to contribute to the literature, given the limited number of studies on this product group and the absence of studies that have examined this relationship. At the study, first, the theoretical framework will be addressed and discuss the foundations of the hypotheses established through the study's model, followed by a presentation of field research conducted to test the model. Finally, the study's contribution to the literature, its limitations, and its guidance for future research will be examined.

## 2 | THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

### 2.1 The Relationships Between Consumer Skepticism and Purchase Intention

Today, consumers are constantly faced with new products and technologies. However, despite their innovative features and marketing strategies, these new products do not always receive a positive response in the market. Consumers may be particularly skeptical about whether the products will deliver on their promises or meet their expectations. This skepticism can undermine consumers' trust in new products and affect their purchasing decisions (Dunn & Harness, 2018, p. 1503).

The word skepticism comes from the Greek word "skeptomai," meaning "to think, to consider, to examine" (Cevizci, 2010, p. 155; Skarmeas & Leonidou, 2013, 1832). Skepticism means "the tendency to doubt, disbelieve, and question" (Dhanesh & Nekmat, 2019, p. 16). Skepticism is defined as a cognitive response that varies depending on the context and content of communication (Meyers-Levy & Malaviya, 1999, p. 54; Mohr et al., 1998, p. 33), and it arises when an individual's set of beliefs and values leads them to question the credibility of an idea or ideology (Russel, 1984). Skepticism, while questioning the possible outcome of an uncertain result or choice, is also considered a lack of confidence in a particular outcome (Cevizci, 2005, p. 1045; De Pechpeyrou & Odou, 2012, p. 47; Hermann et al., 2002, p. 396; Tesser et al., 1983, p. 219; van Vonderen et al., 1996, p. 5). Therefore, skepticism is not a state of mind; it arises only under specific conditions. This refers to situational skepticism. In other words, skeptical people, while doubting what other people say or do, can be convinced when evidence is presented (Mohr et al., 1998, p. 33; Yin et al., 2022, p. 637).

Consumer skepticism is a feeling that arises when a customer encounters a product that may affect their purchase intention (Afzali & Ahmed, 2016, p. 12). It indicates a discrepancy in the consumer's mind regarding their beliefs and trust in a product and the features offered (Malhotra & Fatehpuria, 2024). It is used to express consumers' distrust or disbelief in marketers' actions (Forehand & Grier, 2003, p. 350; Obermiller & Spangenberg, 1998, p. 160). It can be seen as a pre-attitude state in which the consumer has not yet decided whether to accept a novelty (Saaksjarvi & Morel, 2010, p. 275). Consumer skepticism can also be defined as the tendency for consumers to question any aspect of a new product offering, regardless of how it appears (e.g., facts, inferences, or claims) (Arli et al., 2019, p. 709; Morel & Pruyn, 2003, p. 353). Therefore, a product that might be perceived as successful by one group could be interpreted differently by another (Saaksjarvi & Morel, 2010, p. 274).

Forehand & Grier (2003) suggest that there are two types of consumer skepticism: prejudiced skepticism and situational skepticism. Prejudiced skepticism is a general tendency to doubt marketers' motives, while situational skepticism is a temporary state of doubting a particular marketer's motives. In general, consumers tend to be less skeptical of innovative marketing practices because they cannot easily determine the persuasive intent behind them. In other words, consumer skepticism can often stem from negative past experiences, misleading advertisements, and marketing tactics (Sher & Lee, 2009, p. 139). As new tactics become more widespread and the marketing objective becomes clearer, consumers are more likely to be skeptical (Kim & Lee, 2009, p. 468; Mohr et al., 1998, 35–36). Therefore, consumer skepticism has become the subject of an increasing number of academic studies in recent years (Albayrak et al., 2013, p. 27; Nguyen et al., 2023, p. 1).

Consumers are generally skeptical of new products that include advanced features. They lack confidence in high-quality products and high innovation due to uncertainty about whether the product will deliver what they want. This, in turn, increases skepticism about new or high-quality products (Hawass, 2013, p. 81). Consumer skepticism can stem from individuals or from information provided by unreliable sources (such as advertising) lacking objective evidence (Albayrak et al., 2013, p. 29; Amos & Grau, 2015, p. 695; Boyes & Chandler, 1992, p. 285; Deneçli, 2015, 217; Ford et al., 1990, p. 439; Forehand & Grier, 2003, p. 350; Mazis & Raymond, 1997, p. 11; Obermiller & Spangenberg, 1998, p. 159; Oleson et al., 2000, p. 498; Parsons & Maclaran, 2009, p. 46). However, most consumers do not believe advertising until they obtain objective evidence (such as product testing) of a product's performance, and therefore harbor doubts about its performance (Hoch & Ha, 1986, p. 225). With greater access to information, consumers have begun evaluating products with a more informed, critical approach. Factors such as whether the innovations a product promises are genuine, its quality, long-term benefits, different types of advertising, and the price-performance balance can lead consumers to adopt a skeptical attitude. The past performance of brands and the level of transparency they offer to consumers are also important factors that increase or decrease skepticism (Bhatia & Jain, 2013; Forehand & Grier, 2003; Obermiller et al., 2005, p. 8).

In general, consumers use skepticism as a defense mechanism to protect themselves from misleading and deceptive marketing practices. As consumers' knowledge of marketing tactics increases, their skepticism toward advertising and marketing grows (Friesstad & Wright, 1994, p. 1; Mohr & Webb, 2005, p. 124). Mick & Fournier (1998, 133) suggest that consumers may adopt either avoidance strategies or confrontation strategies when dealing with innovations. In avoidance strategies, a customer may choose to reject a new product or postpone purchasing it until the existing product malfunctions. Confrontation strategies, on the other hand, allow the customer more time to gather information and test the new product beforehand. Through these trial processes, first-hand product experience enables consumers to evaluate the benefits of the innovation, as purchase decisions are influenced not only by the product itself but also by the experience and emotional value it provides (Zalluhoğlu & Çalışkan, 2024). Both strategies imply that customers tend to be skeptical of innovations because they perceive functional differences between old and new products.

New products carry uncertainty about costs and benefits compared to existing products. However, consumer skepticism towards new products is also considerable. In other words, consumers may lack faith that a new product will deliver on its promises. Studies on innovation adoption show that a new product is more likely to be accepted if it offers more advantages, less risk, less complexity, and greater compatibility (Castano et al., 2008, p. 321; Hoeffler, 2003, p. 407; Mick & Fournier, 1998, p. 125; Saaksjarvi & Morel, 2010, pp. 273-277; Wood & Moreau, 2006, p. 45). Skepticism plays a significant role in consumers' response to innovation (Afzali & Ahmed, 2016, p. 4; Hareka & Wahyudi, 2020, p. 5). Therefore, consumer skepticism is considered one of the factors that can influence purchase intention. Skepticism can result in a negative attitude towards promotional activities, negative judgments about brands and products, and evaluations that contain negative statements about a business and retailer (Forehand & Grier, 2003). Saaksjarvi and Morel (2010) evaluate skepticism towards new products based on three factors: relative advantage, perceived risk, and compatibility.

Relative advantage refers to the degree to which consumers' skepticism that a new product will be perceived as better than the product it replaces. While the degree of relative advantage can be measured in economic terms, social prestige factors, convenience, and satisfaction are also often important components (Rogers, 1983, pp. 11-15). Consumers consider the comfort and familiarity provided by existing products when evaluating the benefits of new products. Faced with an increasing number of new products, consumers may begin to doubt whether each new product introduced to the market provides them with a relative advantage. Therefore, they may begin to doubt the relative advantage of new products (Saaksjarvi & Morel, 2010, p. 276). Increased skepticism about the relative advantages of new products can negatively affect consumers' intention to purchase them. In other words, if consumers clearly see the advantages offered by a new product, their intention to purchase may increase. However, if they doubt the reality of these advantages, this intention may decrease. Therefore, the first research hypothesis is as follows:

*$H_1$: Skepticism about the advantages of new products negatively impacts purchase intention.*

Consumers evaluate the potential risks of a product and the benefits it may offer. Consumers' perceptions of risk regarding new products determine their approach to them. While perceived risk is a multidimensional construct comprising several types of risk, consumer skepticism and performance risk stand out as distinct. Accordingly, performance risk refers to the degree to which consumers question how well a product performs what it is supposed to, and its consistency and reliability in this regard (Brucks et al., 2000, p. 360; Garvin, 1987, p. 104; Rijsdijk & Hultink, 2003, p. 207). Because products may fail prematurely or perform less than expected, consumers may have to reconsider their expectations regarding a product's performance. Therefore,

consumers may have skepticism about a new product's performance as promised (Hawass, 2013, p. 81; Saaksjarvi & Morel, 2010, p. 276). Increased consumer skepticism regarding performance risk can negatively impact consumers' purchasing intentions (Rogers, 1983, p. 82). The hypothesis formulated in this context is as follows:

*$H_2$: The perception of high risk associated with new products negatively impacts purchase intention.*

Consumers may hesitate when evaluating how compatible a new product is with their existing lifestyles, needs, or other possessions. Therefore, compatibility is considered a significant factor in the formation of consumer skepticism towards new products. The level of compatibility refers to the degree to which consumers doubt that a new product will be consistent with their existing values, past experiences, and needs. If a product appears incompatible with a consumer's habits or other products they use, it increases consumer skepticism. The fact that consumers face countless options makes it challenging to define the limits of compatibility and determine whether new products will suit them. This situation also leads consumers to doubt whether a new product will suit them (Belk, 1988, p. 145; Saaksjarvi & Morel, 2010, p. 276; Rogers, 1983, p. 15). If a product appears incompatible with their usual usage patterns or other possessions, this can negatively affect their purchase intention. The research hypothesis formulated within this context is as follows:

*H3: Concerns about the compatibility of new products negatively impact purchase intention.*

### 2.2 The Moderating Effect of Reference Groups

According to the American Psychological Association (2018), a reference group is "a group or social aggregate that individuals use as a standard or frame of reference when selecting and appraising their own abilities, attitudes, or beliefs". When the relevant literature is examined, it is evident that studies on reference groups began to develop significantly in the 1960s, although the concept was introduced by Hyman (1942). Hyman emphasizes that individuals identify reference groups as points of comparison in evaluating their own status, and specifically notes that these reference groups often consist of higher-class individuals whose status symbols are sought to be emulated (Shibutani, 1955, pp. 562-563). Hyman (1942, p. 19) notices that Individuals can attain status in general, economic, intellectual, social, appearance, cultural, athletic, prestige, character, political, sexual, religious, and respectability terms. Therefore, it is possible to say that by considering these dimensions, they choose reference groups based on whichever aspect they need information about when deciding. It is known that consumers involved in a purchasing decision-making process often base their decisions on reference groups. The fact that reference groups are among the key factors influencing consumer behavior, especially in traditional consumer behavior models (Tapan, 1990), underscores their importance in understanding consumers. Numerous studies in the literature show that reference groups influence consumer behavior in countless decisions, such as whether consumers choose products socially or personally, whether they are necessities or luxury goods (Bearden & Etzel, 1982), whether they will be influenced by their peers or family when making a purchase (Childers & Rao, 1992), which brand they will choose (Escalas & Bettman, 2003), where they will go as tourists (Hsu et al., 2006)and what they will eat(Øygard & Klepp, 1996; Verlegh & Candel, 1999). While the effects of reference groups on consumers are discussed in the literature, the need for categorization has arisen, given the view that not all reference groups serve the same purpose. It can be noted that Parker Lessig and Whan Park carried out the first preliminary work in this field. According to Lessig & Park (1978), consumers are influenced by 3 types of reference groups: "*1) informative, (2) utilitarian, and (3) value-expressive"*.

Informative reference groups aim to provide individuals with information about events and phenomena in their environment without any coercion. Consumers are expected to benefit from a reference group only if they perceive it as helping them improve their ability to cope with problems in their environment. For an informative reference group to fulfill its function, it is considered important that the consumer, having received information from the reference group, sees it as confirmation in real life, and that the reference group exerts an informative effect. (Deutsch & Gerard, 1955). When the reference source provides reliable information, it makes the consumer feel secure, which, in turn, positively influences their purchasing intentions. (Gürsoy, 2023). According to Ding et al. (2020) Individuals are more likely to internalize and accept products when they obtain information from informative reference groups. Therefore, it is thought that the influence of information obtained from informative reference groups will also affect the purchase intentions of accepted products. Sen, Gürhan-Canli, and Morwitz (2001) approached the subject from a different perspective, stating that information from informative reference groups about not using a product and their boycott practices against it leads new consumers to doubt the product and become inclined not to buy it. Considering these studies, hypothesis $H_4$ was proposed, based on the view that informative reference groups significantly influence the relationship between consumer suspicion towards new products and purchase intention.

*$H_4$: Informative reference groups have a moderating effect on the relationship between consumer* skepticism *on new products and purchase intention.*

*$H_{4a}$: Informative reference groups have a moderating effect on the relationship between consumer* skepticism *about the relative advantage of new products and purchase intention.*

*$H_{4b}$: Informative reference groups have a moderating effect on the relationship between perceived risk for new products and purchase intention.*

*$H_{4c}$: Informative reference groups have a moderating effect on the relationship between compatibility for new products and purchase intention.*

Reference groups are called utilitarian reference groups when individuals believe that their actions will result in reward or punishment from other members of their group, and are therefore motivated to avoid punishment and seek reward to remain part of the group. In such reference groups, individuals tend to conform to the opinions of other members of the community because they believe they can benefit from rewards or avoid punishment (Oniku & Awele, 2017; Swart & Schutte, 2024). Considering the study that shows a growing tendency among grandparents to purchase newly released technological devices in order to interact with their grandchildren (Hough & Kobylanski, 2009), it can be argued that grandparents may feel punished for missing out on family developments, while feeling rewarded when communicating with their grandchildren can be interpreted as utilitarian reference group influence. In this case, even if they had no prior intention of making such purchases, they may benefit from utilitarian reference groups to alleviate existing skepticism, such as concerns about their ability to adapt to or use the devices. Similarly, if an individual starts watching a television program or channel she/he has not followed or is unaware of before, out of fear that some of his/her colleagues or close friends might watch it and that she/he will be left out of conversation when socializing with them, this can also be considered an example of the utilitarian reference group effect (Arora & Stoner, 1995). Therefore, the consumer who makes a choice he/she previously had no inclination towards is considered to have moved away from existing skepticism and become convinced about consumption. In light of studies in this area and the view that utilitarian reference groups will moderate the relationship between consumer skepticism toward new products and purchase intention, $H_5$ has been structured as follows.

*$H_5$: Utilitarian reference groups have a moderating effect on the relationship between consumer suspicion of new products and purchase intention.*

*$H_{5a}$: Utilitarian reference groups have a moderating effect on the relationship between consumer* skepticism *about the relative advantage of new products and purchase intention.*

*$H_{5b}$: Utilitarian reference groups have a moderating effect on the relationship between perceived risk of new products and purchase intention.*

*$H_{5c}$: Utilitarian reference groups have a moderating effect on the relationship between compatibility for new products and purchase intention.*

The last reference group effect is the value of the expressive reference group effect. In this type of reference group effect, consumers base their decisions not on avoiding rewards/punishments, but on belonging to the group they wish to be part of. In other words, individuals internalize the behaviors of others in the group they want to be part of and feel complete by adopting those behaviors. The most important aspect of this reference group effect is the individual's awareness of community values and their use of these values to shape their lives. (Bearden & Etzel, 1982; Koc, 2012; Lessig & Park, 1978). Zhang & Bunchapattanasakda (2025), starting from the view that the influence of value-expressing reference groups on individuals should be considered both in terms of maintaining and improving their image and achieving self-worth by continuing the behavior of the reference group, and in terms of trying to express their affection by showing a tendency to conform to the group they want to be a part of, focused on product groups unfamiliar to consumers, such as organic products, in their study and found that the tendency to consume the product increased in line with the opinions they received from value-expressing reference groups through trust in the product itself or in the supply chain that enabled the product to reach the consumer. According to Oniku & Awele (2017) Even though children are considered to be in a period where they are just beginning to make purchasing decisions, and their consumption habits are just beginning to take shape, a period that can be seen as part of their self-development, they are still influenced by value-expressive reference groups that can be defined as close friends. Considering that individuals, as children, are not yet conscious consumers and approach purchases with considerable suspicion, with countless questions in their minds such as whether they will get their money's worth, whether the decision they make alone is right, and what the consequences will be if they make a wrong decision, the idea that value-expressive

reference groups can influence purchasing intentions and suspicion stands out. Based on the aforementioned studies, the final hypothesis of the study, $H_6$, is as follows.

*$H_6$: Value-expressing reference groups have a moderating effect on the relationship between consumer suspicion of new products and purchase intention.*

*$H_{6a}$: Value-expressing reference groups have a moderating effect on the relationship between consumer* skepticism *about the relative advantage of new products and purchase intention.*

*$H_{6b}$: Value-expressing reference groups have a moderating effect on the relationship between perceived risk of new products and purchase intention.*

*$H_{6c}$: Value-expressing reference groups have a moderating effect on the relationship between compatibility for new products and purchase intention.*

## 3 | Methodology

### 3.1 Purpose and Significance of the Research

The main objective of this research is to examine the effects of consumer skepticism towards new products and the influence of reference groups on purchase intention in the context of electric vehicles, and to reveal the relationships between these elements within a holistic model. Electric vehicles are considered an important representation of sustainability goals and environmentally friendly technologies worldwide. However, despite the strong emphasis on their environmental benefits, consumer adoption of these products is progressing more slowly than expected. This situation is closely related to "consumer skepticism," a concept frequently discussed in literature. Skepticism towards new products is defined as consumers questioning the accuracy of manufacturers' performance, durability, or benefit claims and can lead to adverse effects on purchase intention (Morel & Pruyn, 2003, pp. 357-358). Various studies have emphasized that factors such as high cost, limited charging infrastructure, range anxiety, and uncertainties regarding the resale value of electric vehicles increase consumer skepticism (Egbue & Long, 2012, pp. 717–719). Therefore, the primary focus of this research is to determine the extent to which this skepticism influences purchase intention and the roles that reference groups play in this process.

Reference groups play a significant role in consumers' decision-making processes through informative and normative influences (Burnkrant & Cousineau, 1975, pp. 206–208). The influence of reference groups is particularly pronounced in product categories with high visibility and symbolic value (Bearden & Etzel, 1982, pp. 190–191). The automobile category is not only a functional consumer product but also a product group that serves as an indicator of social status, identity, and social approval. Therefore, the influence of reference groups on the decision to purchase an electric car is expected to be high. Approval or criticism from the social environment can shape consumers' perceptions of a product, reducing or reinforcing skepticism towards new products. Indeed, previous research has shown that symbolic and environmental motivations play a decisive role in the adoption of sustainable innovations, and that reference groups function as social proof (Noppers, Keizer, Bolderdijk & Steg, 2014, pp. 53–55). Within this framework, our study aims to explain purchase intention by considering both product skepticism and the reference group effect.

From a theoretical perspective, the Theory of Planned Behavior (TPB) emphasizes the role of attitudes, subjective norms, and perceived behavioral control in determining individuals' behavioral intentions (Ajzen, 1991, pp. 181–188). Within this framework, consumer skepticism acts as a cognitive barrier that can negatively impact individuals' attitudes and reduce their intention to buy. On the other hand, subjective norms, which emerge from reference groups, lead individuals to make decisions based on the expectations of their social environment, thereby strengthening their intention to buy. Therefore, this research aims to examine how reference groups transform the negative impact of new product skepticism on intention to buy. Based on this, a comprehensive model has been developed that considers both cognitive barriers and social influences (Figure 1).

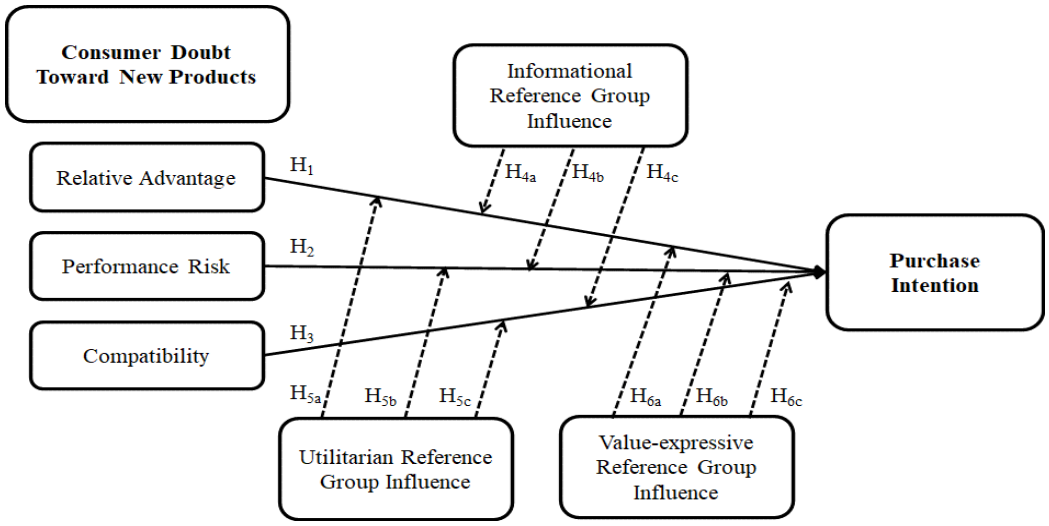



**Figure 1. Research Model**

The importance and unique contribution of this study can be assessed in several dimensions. Firstly, research on electric vehicles generally focuses on tangible barriers such as cost, charging infrastructure, and performance (Egbue & Long, 2012, pp. 717–719). However, the examination of consumer skepticism as a structural determinant of purchase intention has been addressed in only a limited number of studies. This study focuses on measuring consumer skepticism towards new products in the context of electric vehicles and analyzing in detail the impact of their sub-dimensions (battery life, resale value, durability, etc.) on purchase intention. Secondly, both the normative and informative dimensions of the reference group effect will be considered, and the functions of these dimensions in reducing or reinforcing consumer skepticism will be tested with a quantitative model. This approach offers a holistic perspective rarely encountered in the literature. Thirdly, the findings of this study will not only contribute to the academic field but will also offer practical recommendations for policymakers and marketing managers. For example, providing transparent performance data to reduce consumer skepticism, strengthening battery warranties, or developing mechanisms to guarantee resale value. To increase social impact, reference group-based campaigns, sharing peer experiences, and emphasizing the role of opinion leaders can be suggested. In this respect, the study is expected to provide both theoretical and practical contributions.

### 3.2 Research Methodology and Data Collection

This study examines the relationships between consumer skepticism towards new products, the influence of reference groups, and purchase intention for electric vehicles using a quantitative research approach. The reason for choosing a quantitative research method is that it allows analysis of relationships among variables using measurable data and ensures the statistical generalizability of the findings (Creswell, 2014, p. 155). In the research model, consumer skepticism is the independent variable, purchase intention for electric vehicles is the dependent variable, and reference groups are the moderating variable. This design allows for the examination of both cognitive and social factors in the adoption of new technologies.

Data collection was conducted through a survey. The target group for this study consisted of individuals who either owned an electric car or intended to purchase one in the near future. Data was collected from 264 participants residing in Turkey. The sample size exceeds the minimum recommended for quantitative research in the social sciences (Hair et al., 2019, p. 111), increasing the reliability of the findings.

Purposive sampling was used to select the sample. Purposive sampling is suitable for this study because it allows the selection of individuals most relevant to the research questions and with experience in them (Palinkas et al., 2015, p. 534). In this context, only individuals with experience with electric vehicles or who explicitly expressed an intention to purchase one were included in the study. This approach created a sample structure consistent with the research's theoretical framework. The research sample was structured to include diverse demographic characteristics. The participants' ages, genders, income levels, and educational statuses varied, allowing conclusions about different consumer segments to be drawn from the findings. This diversity is significant in understanding the role of demographic differences in the adoption of a relatively new technology such as electric vehicles.

### 3.3 Reliability and Validity of Measures

This section comprehensively examines the validity and reliability characteristics of the scales used in the research. To evaluate the psychometric properties of the scales, the focus was primarily on construct validity, and exploratory factor analysis (EFA) was performed accordingly. In the EFA process, the suitability of the scales' factor structure, the adequacy of the total variance explained, and the suitability of the sample size for factor analysis were evaluated using the Kaiser-Meyer-Olkin (KMO) test. According to the literature, a KMO value of at least 0.60 is considered sufficient for a scale to be suitable for factor analysis (Kaiser, 1974, p. 35). Furthermore, factor loadings of 0.40 and above are considered significant, indicating that the items are sufficiently related to the relevant factor (Field, 2009, p. 660). In addition, a total variance explained exceeding 30% is important in demonstrating that the scale statistically adequately represents the construct it aims to measure (Stevens, 1992, p. 384). Following validity analyses, Cronbach's Alpha values were calculated to assess the scales' reliability. A high Cronbach's Alpha coefficient indicates that the item group measures a single construct. In general, a Cronbach's Alpha value above 0.70 is acceptable, above 0.80 indicates high reliability, and above 0.90 indicates very high reliability (George & Mallery, 2003, p. 231). When all these analyses are considered together, it has been shown that the scales used in the research are satisfactory in terms of both validity and reliability and provide a solid measurement infrastructure for the study.

The measurement tools used in this research were carefully selected to yield accurate and reliable data in line with the study's objectives. In this context, scales widely used in the literature, whose validity and reliability have been proven in previous studies, were utilized. The selection of these scales was based on their ability to reflect the relevant variables most appropriately and comprehensively within the theoretical framework. Thus, the aim was to ensure that the collected data were both scientifically sound and capable of producing meaningful results in practice.

***Consumer Skepticism Scale:*** The consumer skepticism scale used in this research is a tool developed by Saaksjarvi & Morel (2010) that measures the levels of hesitation, anxiety, and distrust individuals feel towards new products. The scale systematically evaluates the uncertainties consumers experience when encountering new products, their perceptions of risk regarding innovations, and their skepticism about the product's performance or promises. Developed to understand the psychological processes affecting new product acceptance, the scale addresses consumer skepticism as a multidimensional construct. It aims to measure individuals' cautious approach to innovations within a comprehensive framework. It is considered an important measurement tool for analyzing the effects of consumer skepticism on purchase intention, innovation adoption behavior, and attitudinal evaluations of new products. The consumer skepticism scale used in this study comprises 3 dimensions and 13 statements. The validity and reliability analysis results for the scale are presented in Table 1. Factor loadings in the relevant dimensions were found to be in the ranges of 0.675 - 0.817 (relative advantage), 0.653 - 0.777 (performance risk), and 0.609 - 0.873 (compatibility). The Kaiser-Meyer-Olkin (KMO) value obtained from the analyses is 0.867, indicating that the sample size is quite suitable for factor analysis. Furthermore, the Bartlett's test of sphericity ($\chi^2 = 1.177{,}875$; $p < 0.05$) indicates that the data are suitable for factor analysis. These findings demonstrate that the necessary conditions for examining the scale's factor structure have been met. The exploratory factor analysis revealed that the scale's total explained variance is 59.428%, indicating that the consumer skepticism structure is strongly represented. Additionally, the Cronbach's Alpha values calculated in the reliability analyses indicated that all dimensions have acceptable internal consistency.

***Reference Group Scale:*** The reference group scale used in this research is a tool developed by Kim & Qu (2017) that aims to measure the influence of different reference groups on consumers' purchasing decisions. The scale comprehensively evaluates the guiding role of groups from which individuals receive information, are influenced, or associate themselves in the purchasing process. In this context, reference groups are considered in three dimensions: informative, which provides accurate and reliable information to consumers; utilitarian, which exerts influence through social pressure and normative expectations; and value-expressive, which relates to consumers' identity, self-presentation, and perceptions of social status. The reference group scale comprises 3 dimensions and 9 statements. The factor loadings for the informative, utilitarian, and value-expressive dimensions range from 0.609 to 0.861, 0.636 to 0.807, and 0.784 to 0.871, respectively (Table 1). The Kaiser-Meyer-Olkin (KMO) value of 0.733 indicates that the sample is well-suited for factor analysis. Furthermore, Bartlett's test of sphericity ($\chi^2 = 587.6058$; $p < 0.05$) indicates that the data are suitable for factor analysis. These findings indicate that the necessary criteria for examining the scale's factor structure are met. As a result of the exploratory factor analysis, the total explained variance for the reference group scale was 64.215%, indicating that this ratio strongly reflects the construct the scale aims to measure. The Cronbach's Alpha coefficients obtained in the reliability analyses indicate that all dimensions have acceptable internal consistency.

**Table 1.** Validity and Reliability Analyses of Scales

| Consumer Skepticism Scale | | | | |
|---|---|---|---|---|
| **Dimensions** | **Number of Items** | **Factor Loadings** | **Explained Variance** | **Reliability** |
| performance risk (PR) | 5 | 0,653 - 0,777 | 24,033 | 0,806 |
| Compatibility (CO) | 5 | 0,609 - 0,873 | 21,363 | 0,814 |
| relative advantage (RA) | 3 | 0,675 - 0,817 | 14,033 | 0,764 |
| KMO = 0,867; Barlett = 1177,875, p = 0,000 (df=78) | | | | |
| Total Variance Explained = %59,428 | | | | |
| **Reference Groups Scale** | | | | |
| **Dimensions** | **Number of Items** | **Factor Loadings** | **Explained Variance** | **Reliability** |
| informational reference group (IRG) | 3 | 0,609 - 0,861 | 19,956 | 0,774 |
| utilitarian reference group (URG) | 3 | 0,636 - 0,807 | 20,427 | 0,716 |
| value-expressive reference group (VRG) | 3 | 0,784 - 0,871 | 23,832 | 0,846 |
| KMO = 0,733; Barlett = 587,058, p = 0,000 (df=36) | | | | |
| Total Variance Explained = %64,215 | | | | |
| **Purchase Intention Scale** | | | | |
| **Dimensions** | **Number of Items** | **Factor Loadings** | **Explained Variance** | **Reliability** |
| purchase intention (PI) | 4 | 0,727 - 0,842 | 63,508 | 0,805 |
| KMO = 0,778; Barlett = 341,509, p = 0,000 (df = 6) | | | | |
| Total Variance Explained = %63,508 | | | | |

***Purchase Intention Scale***: Developed by Xie, An & Yasir (2022), this one-dimensional scale measures individuals' tendency to purchase a specific product. It aims to assess the fundamental psychological and perceptual elements that shape consumer purchasing behavior and to measure cognitive and behavioral factors that directly influence purchase intention. This scale, which examines consumer purchase intention, has demonstrated its usefulness as a measurement tool through validity and reliability analyses across different samples. The purchase intention scale consists of four items. High factor loadings confirm the scale items' power to represent the structure of purchase intention. The Kaiser-Meyer-Olkin (KMO) value of 0.778 obtained from the validity analyses indicates that the sample size is sufficient for factor analysis. Furthermore, the Barlett's test of sphericity ($p<0.05$) indicates that the data are suitable for factor analysis. The fact that the total explained variance of the purchase intention scale exceeds 60% indicates that the scale adequately and strongly represents the construct it aims to measure. A Cronbach's Alpha coefficient above 0.80 indicates that the scale has high internal consistency and provides a reliable measure of purchase intention.

## 4 | Hypotheses, Tests, and Discussion

The variables examined in this research reveal how consumers' perceptions of new products, the guidance they receive from their social environment, and their purchasing tendencies are interrelated. The sub-dimensions of consumer skepticism—relative advantage, compatibility, and performance risk—reflect different aspects of the uncertainty and hesitation individuals experience when evaluating a new product. These dimensions encompass not only evaluations of the product's technical specifications but also the consumer's perceptual and cognitive processes. Informative, utilitarian, and value-expressive influences related to reference groups demonstrate how the information, approval, and value guidance individuals receive from their social environment are reflected in consumer behavior. This reveals the extent to which social influences can be decisive in purchasing decisions. The purchase intention variable is considered the ultimate indicator of consumers' motivation to evaluate, adopt, and purchase a product.

In this context, comprehensive statistical analyses were conducted to evaluate the relationships among the variables further. The study aimed to both reveal the direct effects between the variables and to test various

interactions, including the moderating roles of social interactions. Accordingly, the analysis process was planned with methods suggested in the literature, and all steps were applied systematically. Thus, the structures that underpin the study's conceptual framework were robustly evaluated from both theoretical and statistical perspectives.

**Table 2.** Mean, Standard Deviation, and Correlation Values of Variables

| Variables | Mean | Std. Dev. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1. (RA) | 3,41 | 0,77 | 1,000 | | | | | | |
| 2. (CO) | 3,53 | 0,73 | 0,440 | 1,000 | | | | | |
| 3. (PR) | 3,19 | 0,80 | -0,370 | -0,340 | 1,000 | | | | |
| 4. (IRG) | 3,66 | 0,71 | 0,260 | 0,290 | -0,240 | 1,000 | | | |
| 5. (URG) | 3,74 | 0,69 | 0,290 | 0,320 | -0,280 | 0,550 | 1,000 | | |
| 6. (VRG) | 3,70 | 0,70 | 0,310 | 0,340 | -0,300 | 0,590 | 0,620 | 1,000 | |
| 7. (PI) | 3,56 | 0,75 | -0,400 | -0,370 | -0,350 | 0,460 | 0,510 | 0,570 | 1,000 |

The data obtained within the scope of the research were analyzed using the SPSS statistical package program. In the first stage of the analysis process, descriptive statistics for the variables included in the study were examined. In this context, the mean and standard deviation values of the sub-dimensions of consumer skepticism, namely relative advantage, compatibility, and performance risk; the informative, utilitarian, and value-expressive dimensions of the reference groups; and the purchase intention variable were calculated, and correlation analyses were performed to reveal the relationships between the variables. The correlation findings in Table 2 indicate statistically significant relationships between the dependent and independent variables in the research model. This indicates that the effects theoretically predicted between these variables can be empirically tested (Hair et al., 2019). In the second stage of the analysis, hierarchical regression analyses were used to examine the moderating roles of the reference groups and the causal relationships among the variables. In moderation effect analyses, independent variables were mean-centered to reduce multicollinearity arising from interaction terms and to improve the accuracy of regression coefficient interpretations. This approach is widely recommended and accepted as a method for moderating variable analysis (Aiken & West, 1991; Cohen et al., 2003). In the final stage, the presence of moderating effects was tested by adding interaction terms between independent variables and moderating variables to the model, and the additional explanatory power of these terms was statistically evaluated. Furthermore, multicollinearity was examined to ensure the reliability and validity of the established regression models and their conformity with the assumptions. The calculated tolerance and VIF (Variance Inflation Factor) values are within acceptable limits for all independent variables, indicating the absence of multicollinearity in the models (Tolerance $> 0.10$; VIF $< 10$) (Kutner et al., 2005; Tabachnick & Fidell, 2019).

### 4.1 Relative Advantage, Purchase Intention, and Reference Group Relationship

Assuming that the impact of consumers' skepticism about the perceived relative advantage of new products on their purchase intention may differ depending on the information they obtain from their social environment, the moderating roles of reference groups in this relationship have been examined. Accordingly, hierarchical regression analyses were conducted to determine whether the effect of skepticism about relative advantage on purchase intention varies according to different types of reference groups. First, the moderating role of the informative reference group in this relationship was examined. The hierarchical regression analysis results presented in Table 3 reveal the effect of skepticism about relative advantage on purchase intention and the moderating role of the informative reference group in this relationship. In the first stage, only relative advantage (RA) was included in the model, and it was found to have a statistically significant, adverse effect on purchase intention ($\beta = -0.341$; $p < 0.01$). This result indicates that increased skepticism about the perceived relative advantage of new products reduces consumers' purchase intention. The model explains 11.6% of the variance in purchase intention at this stage ($R^2 = 0.116$). In the second stage, when an informative reference group (IRG) is added to the model, both relative advantage ($\beta = -0.262$; $p < 0.01$) and IRG ($\beta = 0.312$; $p < 0.01$) are found to have significant effects on purchase intention. The model's explanatory power increased significantly at this stage ($\Delta R^2 = 0.049$; $p < 0.01$), and the total variance explained rose to 16.5%. This finding reveals that the informative reference group directly increases purchase intention. In the third stage, the interaction term between consumer skepticism about the relative advantage and the informative reference group (RA × IRG) was included in the model. The interaction coefficient was determined to be positive and

statistically significant ($\beta = 0.183$; $p < 0.01$). This result indicates that the informative reference group serves as a buffer, moderating the negative relationship between relative advantage on skepticism and purchase intention. In other words, as the influence of the informative reference group increases, the adverse effect of consumer skepticism about the relative advantage on purchase intention decreases. The variance explained by adding the interaction term to the model increased significantly ($\Delta R^2 = 0.031$; $p < 0.01$). Overall, the findings reveal that the informative reference group has a significant moderating effect on the relationship between consumer skepticism about the relative advantage and purchase intention, supporting hypotheses $H_1$ and $H_{4a}$.

**Table 3.** Relative Advantage, Purchase Intention, and Reference Group Relationship

| Variables | 1. Stage | 2. Stage | 3. Stage |
|---|---|---|---|
| Relative Advantage (RA) | -0,341** | -0,262** | -0,198** |
| Informational Reference Group (IRG) | | 0,312** | 0,451** |
| RA*IRG | | | 0,183** |
| *ΔR²* | 0,116 | 0,049 | 0,031 |
| *R²* | 0,116 | 0,165 | 0,196 |
| *Adj. R²* | 0,113 | 0,161 | 0,191 |
| *F* | 54,27 | 39,84 | 31,66 |
| Relative Advantage (RA) | -0,341** | -0,254** | -0,187** |
| Utilitarian Reference Group (URG) | | 0,336** | 0,489** |
| RA*URG | | | 0,201** |
| *ΔR²* | 0,116 | 0,053 | 0,036 |
| *R²* | 0,116 | 0,169 | 0,205 |
| *Adj. R²* | 0,113 | 0,165 | 0,199 |
| *F* | 54,27 | 41,92 | 35,48 |
| Relative Advantage (RA) | -0,341** | -0,241** | -0,165** |
| Value-expressive Reference Group (VRG) | | 0,368** | 0,524** |
| RA*VRG | | | 0,229** |
| *ΔR²* | 0,116 | 0,058 | 0,041 |
| *R²* | 0,116 | 0,174 | 0,215 |
| *Adj. R²* | 0,113 | 0,170 | 0,209 |
| *F* | 54,27 | 45,63 | 40,91 |

** $p < 0,01$

The negative impact of consumer skepticism about the relative advantage on purchase intention is consistent with classical approaches to innovation adoption. According to Rogers' (2003) Diffusion of Innovations Theory, the uncertainty or perceived lack of advantages an innovation offers relative to existing alternatives is one of the key factors delaying adoption decisions (pp. 15–16). In this context, the study's results are consistent with the literature, showing that skepticism about the perception of relative advantage reduces consumers' intention to purchase electric cars. Similarly, Ostlund (1974) and Tornatzky & Klein (1982) also showed that consumers behave cautiously towards innovations and their purchase intention decreases when the perception of relative advantage is weak. Within the framework of social influence theory, informative reference groups help individuals learn appropriate behavior in uncertain decision-making situations (Deutsch & Gerard, 1955, pp. 629–636). Especially with technically complex and new products, consumers tend to turn to expert opinions, experienced users, and reliable sources of information rather than their personal assessments (Park & Lessig, 1977; Burnkrant & Cousineau, 1975). The positive and significant finding for the term "interaction" in this study indicates that the informative reference group mitigates the negative impact stemming from consumer skepticism about the relative advantage. This finding aligns with the reference group effect framework developed by Bearden et al. (1989), supporting the idea that informative social influence can reshape consumer attitudes and intentions. Furthermore, in studies on new and sustainable technologies, it

has frequently been reported that reliable information reduces perceived risk and uncertainty and increases adoption intention (Venkatesh et al., 2003; Axsen & Kurani, 2012). In the context of electric vehicles, factors such as technical specifications, range, battery life, and long-term costs create uncertainty for consumers. At this point, information from informative reference groups supports purchase intention by reducing consumers' skepticism about relative advantages (Rezvani et al., 2015).

To examine the role of social influences in individuals' purchasing decisions, a hierarchical regression analysis was conducted to assess the moderating effect of the utilitarian reference group on the relationship between relative advantage and purchase intention (Table 3). After adding the utilitarian reference group variable to the model (Stage 2), the adverse effect of relative advantage persisted ($\beta = -0.254$; $p < 0.01$), and URG had a positive and significant effect on purchase intention ($\beta = 0.336$; $p < 0.01$). The model's explanatory power increased significantly ($\Delta R^2 = 0.053$; $p < 0.01$), and the total variance explained rose to 16.9%. This finding indicates that the utilitarian reference group directly increases purchase intention. In the third stage, the interaction term between relative advantage and the utilitarian reference group (RA × URG) was included in the model. The interaction coefficient was determined to be positive and statistically significant ($\beta = 0.201$; $p < 0.01$). This finding reveals that the utilitarian reference group plays a weaker moderating role in the relationship; as this effect increases, the negative impact of consumer skepticism about the relative advantage on purchase intention decreases, and consumers can more easily compensate for their skepticism with functional and rational information from their environment. Adding the interaction term to the model significantly increased the variance explained ($\Delta R^2 = 0.036$; $p < 0.01$), and the total explained variance reached 20.5%. Overall, the findings show that consumer skepticism about the relative advantage negatively affects purchase intention, and that the utilitarian reference group moderates this adverse effect. Accordingly, hypothesis $H_{5a}$ is supported.

In technological innovations, the perception that expected performance is uncertain relative to existing alternatives can lead consumers to postpone their decisions or abandon their intention to purchase (Hoeffler, 2003; Talke & Heidenreich, 2014). However, findings on the moderating role of utilitarian reference groups indicate that consumers support their rational evaluations with functional information from their social environment. In the literature, utilitarian reference groups are defined as important social actors that provide technical information and reduce decision-making uncertainty (Park & Lessig, 1977; Bearden et al., 1989). Especially in complex products that require high participation, experience-based information from such groups reduces perceived risk and skepticism (Wood & Hayes, 2012; Risselada et al., 2014). Studies on electric vehicles also support these findings. Previous research has shown that sharing elements such as user experiences, technical comparisons, and cost-benefit analyses through social media reduces consumer skepticism about innovation and strengthens adoption intention (Rezvani et al., 2015; Peters & Dütschke, 2014). Furthermore, it has been suggested that social interactions based on functional information increase perceived innovation value (Claudy et al., 2015). Consequently, this finding highlights the functional aspect of social context in the innovation adoption literature, demonstrating that the negative impact of relative advantage skepticism on purchase intention can be offset through utilitarian reference groups.

The findings reveal that the relationship between relative advantage and purchase intention is not limited to direct effects alone; the value-expressive reference group also significantly shapes this relationship (Table 3). Adding the value-expressive reference group (VRG) to the model shows that both relative advantage ($\beta = -0.241$; $p < 0.01$) and VRG ($\beta = 0.368$; $p < 0.01$) have significant effects on purchase intention. At this stage, the model's explanatory power increased significantly ($\Delta R^2 = 0.058$; $p < 0.01$), and the total explained variance rose to 17.4%. This result demonstrates that the value-expressive reference group directly enhances purchase intention, and that individuals are influenced by reference groups that reflect their social identities. In the third stage, the interaction term between relative advantage and the value-expressive reference group (RA × VRG) was included in the model. The interaction coefficient was positive and statistically significant ($\beta = 0.229$; $p < 0.01$). This finding indicates that the value-expressing reference group moderates the negative relationship between consumer skepticism about the relative advantage and purchase intention in a weakening way. In other words, as the influence of social groups reflecting individuals' identities and values increases, the adverse effect of consumer skepticism about the relative advantage on purchase intention decreases, or even partially balances out. The variance explained by adding the interaction term to the model increased significantly ($\Delta R^2 = 0.041$; $p < 0.01$), and the overall explanatory power of the model reached 21.5% ($R^2 = 0.215$). Overall, the findings reveal that the value-expressing reference group has a substantial moderating role in the relationship between consumer skepticism about the relative advantage and purchase intention. These results show that consumers shape their purchasing decisions not only through rational utility evaluations but also through social identity and symbolic values.

Uncertainty regarding the perceived utility of technology-intensive products can weaken purchase intention by increasing consumers' risk aversion (Talke & Heidenreich, 2014); however, research shows that value-expressive reference groups moderate this adverse effect. This result aligns with studies showing that consumers value not only functional benefits but also the compatibility of products with social identity, status, and self-expression (Belk, 1988; Escalas & Bettman, 2003). Value-expressive reference groups have a strong influence on individuals' self-definition and the reinforcement of their social belonging, and the approval of these groups can reduce the impact of rational skepticism (Bearden & Etzel, 1982). Especially in products with high symbolic value, the social approval offered by reference groups helps balance perceived uncertainty, facilitating the adoption of innovations (Park & Lessig, 1977; White & Dahl, 2006). In products with status symbols, such as electric cars, the opinions of social groups that reflect consumers' values can mitigate the negative impact of relative advantage skepticism on purchase intention (Axsen & Kurani, 2012). In this context, the study's findings demonstrate that consumer behavior is shaped not only by cognitive utility evaluations but also by social identity and symbolic consumption dynamics. The results highlight the strategic importance of value-expressive reference groups in the marketing of innovative products and suggest that social impact-based communication strategies can be an effective tool in balancing relative advantage skepticism.

The findings contribute significantly to the literature on innovation adoption and social impact by revealing that the adverse effect of consumer skepticism about the relative advantage on purchase intention is significantly moderated through reference groups. Firstly, the finding that skepticism regarding perceived relative advantage reduces purchase intention is consistent with Rogers' (2003) Diffusion of Innovations Theory. According to Rogers, relative advantage is one of the key determinants of innovation adoption, and uncertainty and skepticism regarding this advantage delay individuals' adoption decisions (Rogers, 2003, p. 229). Similarly, Saaksjarvi and Morel (2010) showed that skepticism towards new products weakens behavioral intentions by reducing perceived value. The unique contribution of this study is that it reveals that this adverse effect is attenuated to varying degrees across different types of reference groups. The findings clearly demonstrate that the most effective moderating reference group in the relationship between consumer skepticism about the relative advantage and purchase intention is the value-expressing reference group. The moderating role of the informative reference group aligns with the classical social influence approach, which emphasizes consumers' tendency to draw upon the knowledge and experience of others in situations of uncertainty (Deutsch & Gerard, 1955). It has been shown that cognitive cues from others reduce perceived risk and skepticism, particularly for new and complex products (Bearden et al., 1989; Park & Lessig, 1977). The more substantial moderating effect of utility-oriented reference groups points to the role of normative expectations and social approval on purchasing decisions. This finding supports studies highlighting individuals' tendency to prefer products approved by others (Burnkrant & Cousineau, 1975; Cialdini & Goldstein, 2004). However, the observation of the most substantial moderating effect in the value-expressive reference group is particularly noteworthy in the context of symbolic and identity-based consumption literature. According to Belk (1988), consumption is one of the fundamental ways individuals express their self-concepts. In this context, value-expressive reference groups not only provide information or confirmation but also more effectively reduce skepticism by reinforcing the product's alignment with the individual's identity (Escalas & Bettman, 2005; White & Dahl, 2006). Consequently, the findings demonstrate that reference groups function not only through direct effects but also as a critical contextual mechanism that weakens the negative consequences of consumer skepticism about the relative advantage. Particularly in situations where identity and value-based social influences are dominant, they can be said to strengthen purchase intention by pushing consumers' rational skepticism into the background. Overall, the findings show that reference groups not only directly increase purchase intention but also weaken the adverse effects of consumer skepticism, particularly through symbolic and identity-based mechanisms.

### 4.2 Performance Risk, Purchase Intention, and Reference Group Relationship

In the consumer behavior literature, it is accepted that the impact of perceived risk and levels of skepticism towards new products on purchase intention is shaped by individual cognitive evaluations and social interaction processes (Bauer, 1960; Dowling & Staelin, 1994; Schiffman & Wisenblit, 2019). Especially with innovative and technological products, high levels of uncertainty lead consumers to rely more on information from reference groups, norms, and symbolic meanings in their decision-making process (Rogers, 2003, pp. 258–261; Bearden & Etzel, 1982; Park & Lessig, 1977). Social influence theory and the adoption approach to innovation suggest that consumer skepticism can be influenced by the social environment and weakened under certain conditions (Kelman, 1961; Rogers, 2003). Accordingly, informative, utilitarian, and value-expressive reference groups are expected to play different moderating roles in the relationship between perceived high risk for new products and purchase intention (Bearden et al., 1989; Childers & Rao, 1992). In this context, examining how the effect of perceived high risk for new products on purchase intention is transformed through

different types of reference groups is expected to make a significant contribution to both perceived risk theories and the reference group effects literature (Burnkrant & Cousineau, 1975; Escalas & Bettman, 2003; Mitchell, 1999; Solomon, 2018).

Accordingly, the aim was to reveal how the effect of perceived high risk for new products regarding new products on purchase intention is shaped across different reference group types, and to evaluate, separately in theoretical and empirical frameworks, the moderating effect of each reference group type on this relationship. The results of the hierarchical regression analysis are presented in Table 4. First, the negative and statistically significant effect of the performance risk (PR) variable on purchase intention ($\beta = -0.338$; $p < 0.01$) in the first stage of all models supports hypothesis $H_2$. This finding shows that consumers' skepticism that a new product will not meet expectations significantly reduce their intention to purchase electric cars. The negative and significant effect of perceived high risk for new products on purchase intention largely aligns with approaches in the consumer behavior literature that emphasize the central role of perceived risk in decision-making (Bauer, 1960; Dowling & Staelin, 1994). The obtained finding is also consistent with the predictions of innovation adoption theory; Rogers (2003, pp. 216–218) states that perceived performance uncertainty is one of the key factors limiting adoption, especially in the early majority phase. Similarly, Talke & Heidenreich (2014) show that perceptions of high performance risk negatively affect behavioral intentions by increasing consumer resistance to new products. Particularly for new and technological products, the possibility that the product will not deliver the expected functional benefit increases consumers' perceived uncertainty, weakening their purchase intention (Mitchell, 1999; Stone & Grønhaug, 1993). In the context of electric vehicles, performance risk is concretized through factors such as range anxiety, battery life, and long-term reliability, which slow consumer adoption of the innovation (Rezvani et al., 2015, pp. 126–128; Peters & Dütschke, 2014). In complex, high-intensity products like electric cars, performance risk is a determining factor, underscoring the need to evaluate these products not only on environmental benefits but also on perceived reliability and functional adequacy (Gleim et al., 2013; Wang et al., 2018).

**Table 4.** Performance Risk, Purchase Intention, and Reference Group Relationship

| Variables | 1. Stage | 2. Stage | 3. Stage |
|---|---|---|---|
| Performance Risk (PR) | -0,338** | -0,279** | -0,214** |
| Informational Reference Group (IRG) | | 0,322** | 0,486** |
| PR*IRG | | | 0,214** |
| $\Delta R^2$ | 0,114 | 0,049 | 0,038 |
| $R^2$ | 0,114 | 0,163 | 0,201 |
| *Adj.* $R^2$ | 0,111 | 0,159 | 0,196 |
| *F* | 51,842 | 39,504 | 34,918 |
| Performance Risk (PR) | -0,338** | -0,271** | -0,236** |
| Utilitarian Reference Group (URG) | | 0,349** | 0,512** |
| PR*URG | | | 0,236** |
| $\Delta R^2$ | 0,114 | 0,054 | 0,041 |
| $R^2$ | 0,114 | 0,168 | 0,209 |
| *Adj.* $R^2$ | 0,111 | 0,164 | 0,204 |
| *F* | 51,842 | 41,732 | 37,206 |
| Performance Risk (PR) | -0,338** | -0,259** | -0,268** |
| Value-expressive Reference Group (VRG) | | 0,372** | 0,541** |
| PR*VRG | | | 0,268** |
| $\Delta R^2$ | 0,114 | 0,061 | 0,046 |
| $R^2$ | 0,114 | 0,175 | 0,221 |
| *Adj.* $R^2$ | 0,111 | 0,171 | 0,216 |
| *F* | 51,842 | 45,608 | 40,914 |

** $p < 0,01$

The model findings, including the informative reference group, show that the negative impact of perceived high risk for new products on purchase intention can be significantly weakened through reliable information sources (Table 4). While the negative impact of the performance risk variable decreased with the addition of IRG to the model ($\beta = -0.279$), the direct effect of the informative reference group on purchase intention was positive and significant ($\beta = 0.322$; $p < 0.01$). More importantly, the positive and significant PR × IRG interaction term ($\beta = 0.214$; $p < 0.01$) confirms the moderating role of the informative reference group. This reveals that in products with high technical knowledge requirements and uncertainty, such as electric cars, expert opinions, experienced user reviews, and objective information sources strengthen purchase intention by reducing consumers' risk perceptions, thus supporting hypothesis $H_{4b}$. The moderating role of the informative reference group in the relationship between perceived high risk for new products and purchase intention is consistent with approaches in the perceived risk literature that emphasize the uncertainty-reducing function of information. Consumers, especially with technically complex and difficult-to-experience products, turn to reliable and expert sources to support their decision-making processes; this limits the negative impact of perceived performance risk on behavioral intentions (Bettman, 1979; Dowling & Staelin, 1994). In the context of electric vehicles, the uncertainty created by factors such as battery performance, range, and long-term reliability can be significantly reduced through objective information provided via informative reference groups (Rezvani et al., 2015, pp. 124–127). These findings also support studies arguing that information-seeking behavior functions as a risk management strategy. Cox (1967) and Roselius (1971) state that one of the most fundamental mechanisms consumers use to reduce perceived risk is the use of reliable information sources. Similarly, Park & Lessig (1977) showed that informative reference groups weaken negative evaluations stemming from uncertainty by improving the quality of individuals' decisions. In the literature on the adoption of new technologies, expert opinions and experienced user feedback are also emphasized as increasing the intention to adopt by reducing perceived performance risk (Venkatesh et al., 2012; Featherman & Pavlou, 2003). Consequently, hypothesis $H_{4b}$ is supported, indicating that, in innovative products such as electric vehicles, information is not only a decision input but also a strategic element that helps manage perceived risks.

The findings regarding the utilitarian reference group show that the negative impact of perceived high risk for new products on purchase intention is balanced through functional and pragmatic evaluations (Table 4). With the inclusion of the URG in the model, the effect of this variable on purchase intention is found to be strong and positive ($\beta = 0.349$; $p < 0.01$). The significant, positive interaction term ($\beta = 0.236$; $p < 0.01$) indicates a moderating effect of the utilitarian reference group. Therefore, the results strongly support hypothesis $H_{5b}$. This finding shows that the social environment, which emphasizes the economic advantages, operating costs, and environmental benefits of electric vehicles, can compensate for consumers' skepticism about performance risk with rational justifications. Thus, consumers can maintain their purchase intentions despite perceived risks. The moderating role of the utilitarian reference group in the relationship between skepticism about performance risk and purchase intention aligns with theoretical approaches that view the consumer decision-making process as a rational, goal-oriented evaluation. The utilitarian effect allows individuals to manage perceived risks by incorporating functional and pragmatic information from their social environment into their decision-making process (Deutsch & Gerard, 1955; Park & Lessig, 1977). In this context, the strong and positive effect of URG on purchase intention demonstrates that consumers can compensate for their skepticism about performance risk with economic and technical justifications. The perceived risk literature emphasizes that benefit-cost analyses significantly influence consumer decisions, especially in product categories where performance and financial risk are high (Dowling & Staelin, 1994; Stone & Grønhaug, 1993). In the case of electric vehicles, tangible advantages such as cost, long-term fuel savings, and environmental benefits stand out as factors that balance negative expectations regarding performance risk (Rezvani et al., 2015, p. 125; Skippon & Garwood, 2011). Social interactions stemming from URGs weaken the behavioral consequences of risk perception by emphasizing these types of rational benefits. This finding supports studies suggesting that rational justifications offered by the social environment are a significant persuasive factor in the adoption of innovations in the face of perceived risk (Rogers, 2003; Venkatesh et al., 2012).

The model, including the value-expressive reference group, shows the most substantial moderating effect among all reference groups (Table 4). The direct effect of VRG on purchase intention is relatively high ($\beta = 0.372$; $p < 0.01$), and the PR × VRG interaction coefficient is also the highest compared to other models ($\beta = 0.268$; $p < 0.01$). These findings reveal that electric cars are perceived not only as a functional means of transportation but also as an indicator of environmental identity, innovation, and status. Therefore, the influence of social groups that align with consumers' values strongly reduces the negative impact of performance risk-related skepticism on purchase intention. This result shows that symbolic and identity-based motivations play a critical role in the development of innovative products in high-uncertainty contexts. This finding strongly supports hypothesis $H_{6b}$. The fact that value-expressive reference groups have the most

substantial moderating effect on the relationship between performance risk suspicion and purchase intention is consistent with theoretical approaches that explain consumer behavior not only through rational cost-benefit calculations but also through identity construction and symbolic meaning-making processes. Social identity theory suggests that individuals shape their self-concepts through the social groups to which they belong or wish to belong, and that these groups play a decisive role in their consumption preferences (Tajfel & Turner, 1986). In this context, the perception of electric cars as symbols of environmental sensitivity, innovation, and status strengthens the influence of value-expressive reference groups (Belk, 1988; Griskevicius et al., 2010). The symbolic consumption literature emphasizes that consumers choose products not only for their functional benefits but also to express their identities and produce social meaning (Elliott & Wattanasuwan, 1998; Solomon, 1983). In this context, VRG's strong association with performance risk weakens doubts about performance risk, demonstrating that symbolic and value-based motivations act as a compensatory mechanism against perceived risk. Especially in environmentally friendly and innovative products, symbolic gains such as moral satisfaction and social approval can outweigh technical uncertainties (Hartmann & Apaolaza-Ibáñez, 2012, p. 109). The literature on innovation adoption also shows that social norms and identity alignment accelerate adoption in products with uncertainty (Rogers, 2003; Venkatesh et al., 2012). From this perspective, the fact that the value-expressive reference group exerts the most substantial moderating effect indicates that the symbolic meanings of electric vehicles strengthen purchase intention by suppressing concerns about performance risk.

Overall, the findings demonstrate that reference groups not only directly enhance purchase intention but also effectively offset the adverse effects of performance risk concerns, particularly through symbolic and identity-based mechanisms. This result clearly highlights the critical role of social interactions in the decision-making process for innovative products with high performance risk. The findings reveal that the negative relationship between performance risk and purchase intention can be significantly weakened depending on the nature of the reference groups, firmly aligning with the perceived risk literature. It has long been accepted that perceived performance risk negatively impacts consumer decisions, especially in innovative and technological products (Bauer, 1960; Dowling & Staelin, 1994, p. 122). However, as observed in this study, increased information and normative pressure from the social environment can limit the behavioral consequences of this perceived risk. Indeed, previous studies have emphasized that informative reference groups reduce consumers' cognitive burden in situations of uncertainty and rationalize decision-making (Deutsch & Gerard, 1955; Bearden et al., 1989). A more striking aspect of the findings is that the moderating effect is strongest in value-expressive reference groups. This result supports theoretical approaches that argue that consumer decisions are shaped not only by cost-benefit calculations but also by identity construction and symbolic meanings (Belk, 1988; Escalas & Bettman, 2005). It is noted that, especially in environmentally friendly and innovative products, the tendency for individuals to gravitate towards social groups that align with their self-perception relegates risk perception to the background (Bhattacharya & Sen, 2003). Therefore, the findings demonstrate that reference groups offset the negative impact of performance risk through cognitive, symbolic, and normative mechanisms.

### 4.3 Compatibility, Purchase Intention, and Reference Group Relationship

The literature on innovation adoption reveals that individuals' purchasing intentions depend not only on the product's technical specifications but also on how well the innovation is perceived to be compatible with existing values, experiences, and lifestyles. Rogers (2003, pp. 240–242) emphasizes that compatibility is one of the key determinants in the innovation adoption process, but notes that in some contexts, high compatibility can negatively impact adoption intention by reducing the perceived originality and appeal of the innovation. Similarly, Venkatesh et al. (2003) state in their studies on technology adoption that individuals' perceptual evaluations cannot be considered in isolation from the social context. At this point, reference groups play a critical role in individuals' processes of coping with uncertainty. Deutsch and Gerard (1955) demonstrated that informative social influence shapes individuals' attitudes and behaviors through rational evaluations. Bearden et al. (1989) and Park and Lessig (1977) highlight the functions of reference groups in providing information, establishing norms, and offering an evaluation framework in consumer behavior. In particular, informative reference groups have been supported in subsequent studies to strengthen purchase intention by reducing individuals' hesitancy stemming from perceived risk and compatibility (Childers & Rao, 1992; Cialdini & Goldstein, 2004). In this context, examining how perceived compatibility's effect on purchase intention is moderated by reference groups is of theoretical and empirical importance.

Assuming that the impact of compatibility on consumer decisions cannot be evaluated independently of the social context, this study tested the moderating role of the informative reference group on this relationship using hierarchical regression analysis (Table 5). The findings show that the informative reference group significantly moderates the effect of compatibility on purchase intention. In the first stage, only the compatibility variable was included in the model, and it was found that CO had a significant, adverse effect on

purchase intention ($\beta = -0.351$; $R^2 = 0.123$). This finding indicates that individuals' perception of novelty as conforming to their existing habits can reduce purchase intention in specific contexts. In this context, hypothesis $H_3$ is supported. In the second stage, the informative reference group was added to the model, and it was determined that IRG had a significant and positive effect on purchase intention ($\beta = 0.318$; $p < 0.01$). At this stage, the model's explanatory power increased significantly ($\Delta R^2 = 0.048$; $R^2 = 0.171$), and the adverse effect of the compatibility variable weakened ($\beta = -0.297$). This result indicates that the influences from consumers' informative social environments partially offset negative perceptions of compatibility. In the third stage, the interaction term (CO × IRG) was included in the model, and the interaction coefficient was found to be positive and statistically significant ($\beta = 0.219$; $p < 0.01$). The addition of the interaction term further increased the model's explained variance ($\Delta R^2 = 0.039$; $R^2 = 0.210$). This finding reveals that the informative reference group serves as a moderator, significantly weakening the adverse effect of compatibility on purchase intention. Accordingly, hypothesis $H_{4c}$ is supported.

**Table 5.** Compatibility Perception, Purchase Intention, and Reference Group Relationship

| Variables | Stage 1 | Stage 2 | Stage 3 |
|---|---|---|---|
| Compatibility (CO) | -0,351 | -0,297** | -0,221** |
| Informational Reference Group (IRG) | | 0,318** | 0,482** |
| CO*IRG | | | 0,219** |
| *ΔR²* | 0,123 | 0,048 | 0,039 |
| *R²* | 0,123 | 0,171 | 0,21 |
| *Adj. R²* | 0,12 | 0,167 | 0,205 |
| *F* | 56,437 | 41,286 | 36,914 |
| Compatibility (CO) | -0,351 | -0,284** | -0,233** |
| Utilitarian Reference Group (URG) | | 0,346** | 0,518** |
| CO*URG | | | 0,241** |
| *ΔR²* | 0,123 | 0,053 | 0,043 |
| *R²* | 0,123 | 0,176 | 0,219 |
| *Adj. R²* | 0,12 | 0,172 | 0,214 |
| *F* | 56,437 | 43,972 | 38,861 |
| Compatibility (CO) | -0,351 | -0,271** | -0,246** |
| Value-expressive Reference Group (VRG) | | 0,371** | 0,543** |
| CO*VRG | | | 0,268** |
| *ΔR²* | 0,123 | 0,059 | 0,047 |
| *R²* | 0,123 | 0,182 | 0,229 |
| *Adj. R²* | 0,12 | 0,178 | 0,224 |
| *F* | 56,437 | 46,815 | 42,396 |

** $p < 0,01$

Overall, the results show that although the direct effect of compatibility is adverse, information and guidance from informative reference groups can mitigate this adverse effect and increase consumers' purchase intention. This highlights the critical role of informative social influences, especially in innovative products involving uncertainty. While classical approaches to innovation adoption generally suggest that compatibility is a facilitating factor (Rogers, 2003, pp. 240–242), more recent studies show that compatibility can weaken consumer interest in some contexts by reducing perceived novelty value (Hoeffler, 2003; Moldovan et al., 2011). Accordingly, the finding that the direct effect of compatibility on purchase intention is adverse suggests that perceiving the innovation as "too familiar" can reduce perceived benefit and excitement. However, the positive and significant effect of the informative reference group supports the tendency of consumers to turn to external sources of information in decision-making processes involving uncertainty. Informative social influence is defined as individuals using information obtained from others to improve decision-making quality,

and it becomes particularly pronounced in risky or complex product categories (Deutsch & Gerard, 1955; Burnkrant & Cousineau, 1975). Previous research has shown that a social environment that provides reliable information reduces perceived risk and strengthens purchase intention (Herr et al., 1991; Reingen & Kernan, 1986). Similarly, this study's findings make a significant contribution to the literature by demonstrating that information-based social interactions play a balancing and reinforcing role in consumer decisions, especially for innovative products. The positive, meaningful nature of the term' interaction' suggests that social information and guidance can reframe negative evaluations of compatibility. This finding supports studies suggesting that social influence is not only a direct determinant but also a mechanism that regulates the impact of individual perceptions (Cialdini & Goldstein, 2004; Bearden et al., 1989).

Based on the assumption that the social environment, which emphasizes utility and functionality, can be decisive in shaping purchase intention alongside individual perceptions, this study examined how the relationship between perceived compatibility and purchase intention is shaped by the utilitarian reference group using hierarchical regression analysis (Table 5). The analysis results reveal that the effect of perceived compatibility on purchase intention differs significantly under the influence of the utilitarian reference group. In the second stage of the model, the inclusion of the utilitarian reference group in the analysis revealed that perceived compatibility has a positive, statistically significant effect on purchase intention ($\beta = 0.346$; $p < 0.01$). With the addition of this variable to the model, the explained variance level increased ($\Delta R^2 = 0.053$; $R^2 = 0.176$), and the adverse effect of the compatibility variable relatively decreased ($\beta = -0.284$). This finding indicates that feedback consumers receive from their social environment, which makes evaluations based on functionality and utility, can partially compensate for negative perceptions regarding compatibility. In the final stage, the inclusion of the interaction term (CO × URG) in the model yielded a positive, significant interaction coefficient ($\beta = 0.241$; $p < 0.01$). Adding the interaction variable further increased the model's explanatory power ($\Delta R^2 = 0.043$; $R^2 = 0.219$). This result indicates that the utilitarian reference group serves as a significant moderating mechanism, attenuating the negative impact of compatibility on purchase intention. Therefore, hypothesis $H_{5c}$ is supported.

The positive and significant influence of utilitarian reference groups indicates that consumers value social feedback focused on functionality, performance, and rational utility in their decision-making. Previous studies have shown that individuals are more influenced by social environments that offer opinions grounded in experience and technical knowledge, especially for complex or uncertain products (Bone, 1995; Bansal & Voyer, 2000). In this context, utilitarian reference groups provide cognitive support to consumers, reducing perceived risks and facilitating the decision-making process (Sweeney et al., 2008). The positive and significant influence of utilitarian reference groups aligns with approaches that suggest social influence is not only a direct determinant but also a moderating mechanism that reframes the impact of individual perceptions (Viswanathan et al., 2005; Filieri & McLeay, 2014). In particular, utility and performance-based social guidance can balance consumers' negative assessments of compatibility with rational justifications. In this respect, the findings make a unique contribution to the literature by revealing that the effect of compatibility on purchase intention can differ significantly across types of social influence.

To determine whether the effect of compatibility on purchase intention varies depending on the references individuals receive from social groups they believe reflect their identities and values, the moderating role of the value-expressive reference group was tested using hierarchical regression analysis (Table 5). Considering the findings, the effect of compatibility (CO) on purchase intention differs significantly under the influence of the value-expressive reference group (VRG). The analysis results reveal that VRG has a positive, statistically significant effect on purchase intention ($\beta = 0.371$; $p < 0.01$). With the addition of this variable to the model, the explained variance increased ($\Delta R^2 = 0.059$; $R^2 = 0.182$), and the adverse effect of the compatibility variable decreased relatively ($\beta = -0.271$). This finding suggests that approval and symbolic meanings from social groups that individuals consider important for self-expression can partially compensate for negative perceptions of compatibility. In the third and final stage, the interaction term (CO × VRG) was included in the model. The interaction coefficient was determined to be positive and statistically significant ($\beta = 0.268$; $p < 0.01$). Adding the interaction variable to the model slightly increased its explanatory power ($\Delta R^2 = 0.047$; $R^2 = 0.229$; Adj. $R^2 = 0.224$) and further weakened the adverse effect of compatibility on purchase intention ($\beta = -0.246$). These results indicate that the value-expressing reference group serves as a significant moderating variable, attenuating the adverse effect of compatibility on purchase intention. Therefore, it can be said that the relevant hypothesis ($H_{6c}$) is supported.

The main positive effect of value-expressive reference groups on purchase intention aligns with the social identity and self-compatibility literature, which argues that individuals use their consumption preferences to reinforce their social identities (Belk, 1988; Escalas & Bettman, 2005). In particular, value-expressive reference

groups play a strong guiding role in product and innovation evaluations because they offer symbolic clues about "whom an individual wants to be" (Park & Lessig, 1977; Bearden et al., 1989). Interaction findings, however, show that the value-expressive reference group weakens the adverse effect of compatibility. This result parallels studies suggesting that reference groups can be effective not only directly but also indirectly by shaping individual evaluation processes (Childers & Rao, 1992; Burnkrant & Cousineau, 1975). In other words, even if the innovation is not perceived as fully compatible with individual habits, symbolic approval from the social groups with which the individual identifies can sustain purchase intention. In this context, the study makes a significant contribution to the innovation adoption literature by demonstrating that the impact of compatibility should be considered alongside contextual and social factors.

Overall, the study concludes that the moderating effects of reference groups are strengthened in the order of informative → utilitarian → value-expressive; in particular, references related to identity and self-expression more effectively offset the negative impact of compatibility on purchase intention. The findings reveal that different types of reference groups play varying degrees of moderating roles in the compatibility-purchase intention relationship. The relatively weaker moderating effect of informative reference groups can be explained by their focus primarily on reducing cognitive uncertainty. Indeed, while informative references are effective in conveying product features and performance, they play a limited role in symbolic or emotional evaluations (Deutsch & Gerard, 1955; Sherif, 1936). In contrast, the more substantial moderating effect of utilitarian reference groups stems from the inclusion of individuals' expectations of social approval and reward in their decision-making processes. Utilitarian references can compensate for individuals' negative perceptions of compatibility, especially when innovations are risky or uncertain (Kelman, 1961; Bearden & Etzel, 1982). The fact that the most substantial moderating effect belongs to the value-expressive reference group directly aligns with the literature on social identity and self-consistency. Consumers, to the extent that they identify with social groups that reflect their identities and values, may focus on the symbolic meanings of products rather than their functional compatibility (Tajfel & Turner, 1986; Sirgy, 1982). This shows that even in conditions where compatibility is perceived as low, the value-expressive reference group sustains the purchase intention. Therefore, the findings reveal that not only the direct effects of reference groups but also their moderating roles in reframing innovation evaluation processes should be considered. In this respect, the study offers a comparative and holistic contribution to the literature on the reference group.

## 5 | Conclusion and Suggestions For Future Research

From a consumer perspective, the electric vehicle market is characterized by a growing preference for sustainable transportation, a desire for a less costly alternative, and the ambition to keep up with new technological trends. However, from a business perspective, it points to a critical, relatively new field of study that is growing globally, becoming increasingly competitive, and involving significant R&D investments, government incentives, and mandatory sustainability practices. In this market structure, which is unfamiliar in many ways, both from a consumer and a business standpoint, the risks and uncertainties arising from technological developments are thought to generate a strong sense of skepticism. Consumer skepticism about a product significantly influence their willingness to purchase it. Therefore, whether there is an interaction between consumer skepticism about products and their intention to purchase them has been one of the initial problems of this study.

It is known that consumers utilize various sources of information to alleviate their skepticism. The second and main problem of this study is whether reference groups, considered one of these information sources, play a role in the interaction between consumer skepticism and purchase intention, as highlighted in the first problem. The findings of this study, conducted to address this problem, support the idea that consumer skepticism about new technologies affects purchase intentions and that reference groups are a significant variable in this effect. Furthermore, the results of the hypothesis tests conducted within the model are discussed in the methodology section, and the findings will be evaluated under three main headings.

### Contribution to the Theoretical Framework

This study makes a significant theoretical contribution to the literature by explaining consumers' skepticism towards a new technology, how this skepticism is shaped, and the role of reference groups in this process. It particularly reveals the theoretical mechanisms underlying the formation of consumer perceptions in high-uncertainty innovations, such as electric vehicles. The findings emphasize that the innovation evaluation process should be considered not only through technical specifications but also through the holistic interaction of perceptual and social factors. Thus, the study allows for a re-examination of many theoretical approaches explaining consumer behavior towards new products within the context of current technology.

First and foremost, the study's most significant contribution lies in its findings, which reaffirm Rogers' fundamental approach to innovation adoption in the context of electric vehicles. According to Rogers (1962), how a consumer perceives the relative advantage of an innovation is more decisive than its technical superiority. The findings of this study, similar to Rogers' views, demonstrate that relative advantage reduces consumer skepticism and that the economic, environmental, and performance-based benefits of electric vehicles only increase purchase intention to the extent that they are perceived as meaningful by consumers. Similarly, findings regarding compatibility and performance risk confirm that consumer perceptual assessments shape the speed of innovation adoption. The extent to which electric vehicle technology integrates into daily life, or the level of uncertainty regarding its performance, are key factors determining the direction of consumer skepticism. These results strongly support Rogers' emphasis on compatibility and uncertainty reduction in this context. Overall, the study provides a significant theoretical contribution to the literature by framing Rogers' innovation characteristics within a perceptual and psychological framework that explains consumer skepticism specifically in the context of electric vehicles.

Secondly, the concept of consumer skepticism towards new products is gaining importance in the marketing literature, particularly for technological products, where trust, uncertainty, and risk perception are heightened. According to this study's findings, skepticism is shaped not only by risk perception but also by the product's contextual fit and perceived advantages. It is not merely a negative cognitive response. Consumer skepticism should be conceptualized as a multi-layered psychological mechanism in the evaluation of any innovation. This finding contributes to expanding the concept of consumer skepticism, which is increasingly gaining ground in the literature through numerous studies, and to placing it within a more comprehensive cognitive framework.

Thirdly, the findings clearly demonstrate how reference groups shape consumer skepticism and purchase intention toward electric vehicles by revealing the distinct roles of informative, utilitarian, and value-expressive influences. The findings show that the informative influence, in particular, reduces consumer skepticism by reducing technical uncertainty. This result clearly confirms the fundamental assumption of Social Influence Theory. (Kelman, 1974) that individuals shape their decisions based on information and norms from their social environment, and also supports the distinction made by Deutsch & Gerard (1955) between the informative influence (motivation to access accurate information) and the normative influence (motivation to obtain social approval) in relation to technical and status-related products such as electric vehicles.

In addition to these theoretical perspectives, the symbolic meanings of electric vehicles, ranging from environmental sensitivity and technological innovation to status symbols, demonstrate that consumers' tendencies to express their social identities and gain social acceptance are too important to ignore in decision-making. These findings offer a new empirical basis for understanding how social identity-based approaches, value-expressive consumption concepts, and community-influenced consumer behavior operate within the context of electric vehicles.

### Contribution to Practical Applications

This study reveals how consumer skepticism arises in new technology products and how reference groups can reduce this skepticism and increase purchase intention, offering important application recommendations for the electric vehicle ecosystem. The findings show that informative, utilitarian, and value-expressive reference group effects are critical social mechanisms that transform consumer skepticism. In this context, it becomes clear that marketing strategies should not be limited to describing product performance but should be based on doubt management and social validation. It appears critical for brands to systematically highlight expert opinions, early adopter experiences, test-drive communities, and user reviews to enhance informative effects; and to develop communication and positioning strategies that create validation, status symbolism, and a sense of belonging within the social environment to strengthen utilitarian and value-expressive effects. This approach creates concrete application areas that directly strengthen purchase intention by reducing consumer skepticism. These marketing-focused strategies directly intersect with financial decision-making mechanisms, aligning with the view, as found in this study, that consumer skepticism stems not only from technical uncertainties but also from perceptions of economic and performance risk. Therefore, financial instruments can be positioned as complements to the trust environment created by marketing. Affordable leasing models, warranty packages that reduce battery risk and uncertainty about the future value of the vehicle, flexible payment plans, and financing solutions compatible with incentives can reinforce the trust created by marketing communication and reduce the economic dimension of consumer skepticism. Thus, marketing and financial practices become an integrated set of strategies that strengthen purchase intention by simultaneously managing different layers of consumer skepticism.

## Limitations of the Study and Recommendations for Future Research

As advice for future researchers, it is worth noting that there are gaps in the literature that warrant highlighting. For example, this study focuses on electric vehicles, a product group with high participation levels, strong technical aspects, and a relatively new market presence. In future studies, the model could be retested by focusing on different products, such as those with low participation levels, those with long-standing market presence, and those for which consumers are more technically proficient. Similarly, given the increasing influence of digital channels on consumers, studies could be conducted directly with reference groups via these channels. Likewise, since this study focused on purchase intention, studies could be designed to focus on post-purchase behavior, or before/after studies that consider intention as pre-purchase and the purchase itself as post-purchase. It is believed that the multifaceted nature of this study will pave the way for many new studies.

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