Entrepreneurship Journal for Finance and Business (EJFB)
2024, VOL.05, NO. 02, 50-71, E-ISSN: 2709-4251, P-ISSN: 2708-8790
DOI: https://doi.org/10.56967/ejfb2024402

Investigating the impact of customer innovation characteristics on resistance to innovation: Case study of smartphone adoption in Erbil, Iraq.

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Article information:
Received: 18–01– 2024
Revised: 20–02– 2024
Accepted: 24–02– 2024
Published: 25–04– 2024

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Abstract:

This research explores consumer resistance to smartphone innovation in the Erbil/Iraq, uncovering several significant findings. The main goal of the study was to identify the consumer characteristics that influence this resistance and its implications. For smartphone manufacturers, marketers, representatives, and researchers, this study offers a comprehensive understanding of consumer behavior and resistance to technological progress. The results can guide targeted strategies to overcome barriers, improve product development, and increase market share. The study contributes to our understanding of innovation resistance in the unique context of the Erbil/Iraq, highlighting the importance of conducting thorough investigations in similar circumstances.

In light of the findings of the demographic survey, a significant portion of respondents were young people, supporting the widely held belief that young individuals are more likely to adopt new technology. However, the study emphasizes that age is not the sole determinant of resistance to innovation. The diminished impact of income, marital status, and gender on resistance indicates a complex interplay of factors. Conversely, a higher level of education was associated with a greater likelihood of embracing smartphone innovation.

The study delved into various aspects of innovation and revealed that self-efficacy, motivation, complexity, perceived risk, and expectations of a superior product all significantly influenced consumer resistance. Resistance showed a negative correlation with self-efficacy as a psychological trait, suggesting that individuals with higher levels of self-efficacy were less resistant to smartphone innovation. Conversely, higher levels of complexity, perceived risk, expectations of a better product, and motivation were linked to increased resistance, highlighting the crucial role of behavioral and psychological characteristics in shaping consumer attitudes towards innovation. Relative advantage did not appear to have a significant influence, while compatibility and attitudes towards current products were deemed insignificant predictors of resistance. These findings underscore the intricate nature of innovation resistance and demonstrate that socio-demographic traits alone are insufficient as predictors. Consumer resistance is largely shaped by psychological elements such as self-efficacy, motivation, expectations, complexity, and perceived risk.

Keywords: customer innovation characteristics, innovation resistance, smartphone, innovation resistance theory, active innovation resistance, passive innovation resistance, Erbil

1. Introduction

Innovation has a compounding influence on the overall state of the economy. Productivity, GDP growth, and consumer happiness all raise dramatically with the adoption of new technology (Artem, 2014). It goes without saying that overcoming innovation resistance is crucial to success as it is usually one of, if not the biggest, risk factors for entrepreneurs seeking to innovate (Heidenreich & Kraemer 2016). Innovation is known to be challenging, and new ideas are prone to failure. A review of recent generic research (Castellion & Markham 2013) found that one of the primary causes of the approximately 40% failure rate of innovations is consumer resistance. This raises the question of why there is opposition to innovations that have the potential to perform better than existing products. Several research that has looked into this matter have demonstrated that resistance can be caused by both customer- and innovation-specific factors. The explanations of the comparatively high failure rates of programs to develop new technologies that have already been initiated, however, have not received much attention (Ram, 1987; Lee & O'Connor, 2003). Not every innovation initiative finds success in being adopted by customers due to a range of contextual or situational circumstances pertaining to the target markets and customers. Because of this, studies on innovation resistance and the variables that lead target customers of a functionally superior product to reject or oppose the application of the innovation in favor of the current product range have grown significantly in recent years. "Innovation resistance" has been defined as "the resistance offered by consumers to an innovation, either because it poses potential changes from a satisfactory status quo or because it conflicts with their belief structure" (Ram & Sheth, 1989). According to Ma & Lee (2018) and Seth et al. (2020), customer resistance is also characterized as the consumer's resistance to embracing various innovations. One of the key factors determining whether an innovation succeeds or fails in the market is consumer resistance.

Because it can hinder or postpone consumer acceptance, customer resistance to an innovation is crucial to its success. It has been cited as one of the main reasons why innovations don't succeed commercially (Ram 1989; Ram & Sheth 1989; Sheth 1981); additionally, it has been cited as a useful source of knowledge essential to the effective implementation and marketing of innovations (O'Connor et al., 1990). Adoption slows down and the innovation is more likely to fail if the opposition cannot be overcome (Ram 1989). To become much more effective in their improvement efforts and to find solutions to boost competitiveness, productivity, and profitability, businesses need to understand customer resistance, its causes, and influencing variables (Dunphy & Herbig, 1995).

A successful innovation has the power to alter not only its market but also the lives of its consumers (Conway, 2018). A company's competitive position can be improved, its service or product offering can be expanded, and it can see financial benefits over the long term by developing and launching new successful products and services (Bayus, et al., 2003; Gourville, 2006). However, it has been reported that innovations frequently fail. The failure rate for innovations, as judged by insufficient financial returns, ranges between 50% and 90%, according to the literature on innovation (Andrew & Sirkin, 2003; Schneider & Hall, 2011). This is a significant issue that, in the long run, could have detrimental effects on future sales, brand equity, or a company's ability to compete (Bayus et al., 2003; Liao & Cheng, 2014).

According to Nanda et al. (2008), smart phones are effective communication tools because they give users access to the "smart" features of both PDAs (Personal Digital Assistants) and cell phones. Since they offer an impressively useable interface (Monk et al. 2002) and serve as more than just communication tools for their users, these gadgets have grown to play a significant role in their daily lives (Castells, 2006). Smart phones now have increased processing power, storage capacity, and improved communication and multimedia features (Nguyen et al., 2008).

The common consensus is that Smart phones' low market shares are due primarily to their exorbitant price (Martin, 2007). The cost of smart phones is, however, steadily declining (CNET, 2009). This event introduces us to a crucial but frequently overlooked aspect of innovation challenges: consumer resistance. As "radical innovation," smart phones encounter much more customer resistance than "incremental innovation" (Garcia et al., 2007). Consumer resistance is one

of the key variables in the success of innovation since consumer (or end user) acceptance and purchase decisions have a substantial impact on the success of new products. It undoubtedly has significant ramifications for the management of organizations because it might hinder and/or postpone the diffusion of an innovation (Bradley & Stewart, 2002). Consumers that reject innovation are typically non-adopters and make up a sizable portion of the consumer population. These customers should receive more consideration in research studies because they have a high potential for supplying crucial information required for the creation, application, and marketing of innovations (Laukkanen et al., 2008).

From a managerial standpoint, understanding how consumers react to innovation is crucial and valuable. Understanding resistance can assist businesses in designing and developing new items to assure market success and lower the high product failure rate that is currently experienced. Businesses that experience consumer resistance to their innovations are better able to identify the root causes of that resistance and develop strategies to address those problems (Ram, 1987). Smartphone manufacturers and marketers can get vital information about these crucial elements that influence consumers' behavior toward innovation by researching the factors influencing consumer resistance to smartphones.

1.1 Research Model

Kim (2005) asserts that there are two categories of factors—based on both consumer attributes and innovation features—that affect customer resistance. The degree of resistance generated by new products is influenced by their effectiveness and effect on consumers; innovation features are closely related to these aspects. It also has the capacity to predict expected resistance and client acceptance. Researchers have found that the characteristics of innovation provide a more compelling explanation for consumers' perceptions of innovation. Customers' psychological features, such as their assessment of a product's level of innovation, comprise their consumer attributes. The consumer's reluctance to innovation is influenced by their psychological composition. Customer characteristics are seen as having a substantial impact on innovation resistance from the customer's standpoint. As a result, the following factors were chosen as independent variables: Advantage Relative, Compatibility, Self-Efficacy, Motivation, Expectation for Better Product, Attitude toward Existing Products, Complexity, and Perceived Risk. The goal of this study is to examine how customer traits (the independent and demographic variables) affect resistance to innovation (dependent variable). The design model is displayed in [Figure 1] for this purpose.

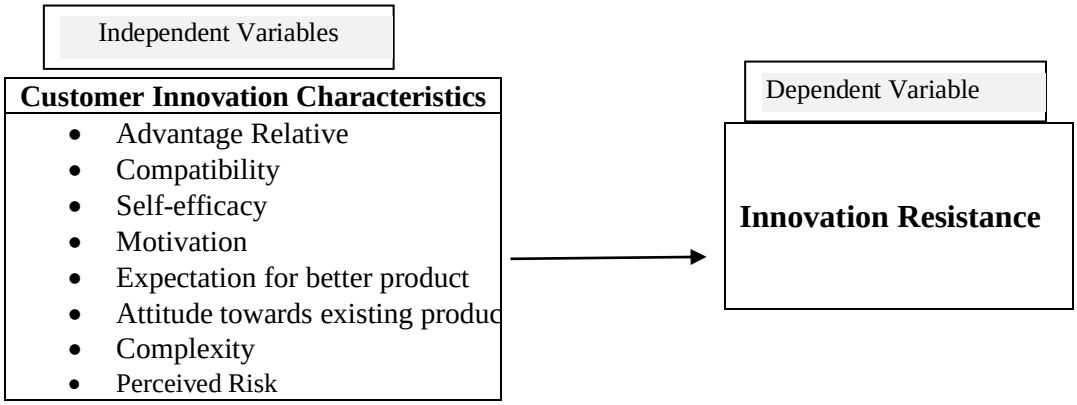

Figure1. Research model

1.2 Research Problem

According to Tidd (2001), innovation is crucial for businesses to thrive over the long term and has been referred to as the lifeblood of most organizations (Balachandra & Friar 1997), particularly in volatile and complicated marketplaces. Despite the positive results of innovations, barriers to or delays in their spread may result in a failure of the market (Mahajan et al., 2000). Consumer resistance appears to have been overlooked in academic literature, and it is one of the key factors

that inhibits or delays the transmission of innovations (Laukkanen et al., 2008). The research aims to investigate the impact of customer innovation characteristics on resistance to innovation, particularly in the context of smartphone adoption in Erbil, Iraq/Kurdistan. The study seeks to understand the complex dynamics of consumer behavior and resistance towards technological advancements, focusing on various demographic and psychological factors influencing innovation resistance.

Even though a wide range of studies have looked at various drivers of innovation resistance from the perspective of consumers (Claudy et al., 2015; Mani & Chouk, 2017; Mani & Chouk, 2018), there is limited research on whether and how the variables of this study, such as consumer characteristics, affect innovation resistance in the field of smart phones, particularly in Erbil/Iraq. The few studies that look at how businesses can overcome resistance to innovation focus on how to use particular marketing tactics and tools to deal with resistance to already-available goods and services in populations outside of our research area, which requires significant thought and investigation in this area (Garcia et al., 2007; Heidenreich & Kraemer, 2016).

According to Robert (1998), it's important to recognize and comprehend the variables that customers' resistance to innovative products seems to be most influenced by. Studying how essential elements (related to consumer characteristics and innovation characteristics) affect consumer resistance will help identify the significance of each factor, the strength of its influence, and how these factors interact. On the other hand, for firms' project team to improve their likelihood of making the right assessments throughout the design and development activities, understanding the main components of consumers and innovation features that affect customers' resistance is vital (W. Robert, 1998). As indicated by Ram (1987, 1989), different consumers have varied reasons for resisting innovation, which influences how each consumer adopts new technologies. These variations imply that businesses should investigate the various elements influencing consumers' resistance to innovations in order to reduce the likelihood of product failure. Consumers could not comprehend the features of the innovation in the same manner as the makers or marketers, which contribute to the issue (Ellen & Bearden, 1991). Researchers have also recommended that Smartphone producers and marketers take into account the elements influencing users' acceptance of and reluctance to utilize mobile devices (Chang & Chen, 2005).

1.3 Research Objectives and Questions

Consumer resistance is a key factor in the success of innovations since it can hinder or delay consumer acceptance and has been identified as one of the main reasons for innovations to fail in the market (Ram & Sheth 1989; Sheth 1981). This study investigates the topic of consumer resistance to innovation in the smart phone industry. The goal of the study is to find and examine the connection between customer resistance and various consumer attributes. The primary influences/determinants of consumers' resistance to cell phones are subsequently highlighted as significant variables. Additionally, the interrelationship between the elements is determined in order to understand the impact of each independent factor (the customer characteristics) on the dependent factor (innovation resistance).

According to Dunphy and Herbig (1995), a consumer's psychological make-up, such as how they feel about a product's innovativeness, is referred to as a consumer's characteristic. The psychological traits of the consumer determine a consumer's resistance to innovation. Relative Advantage, Compatibility, Self-Efficacy, Motivation, Expectation for Better Product, Attitude Toward Existing Products, Complexity, and Perceived Risk are the significant characteristics that have been found as pertinent to Consumer Behavior in the context of innovations in this research (Ram, 1987). Based on innovation and consumer characteristics, the study of consumers' innovation resistance in the context of smartphones can offer the area of innovation research a new breed of data/knowledge regarding customers' behavior toward more advanced mobile technology. Manufacturers and marketers would ultimately be in a better position to anticipate how customers will respond to and engage with new products, minimizing or even eliminating the consequent consumer resistance.

Research Questions:

Based on the research model and research problem the following research questions were developed in accordance with the study's goals:

1. How much does relative advantage affect resistance to innovation among smartphone users in Erbil city?
2. How does smartphone compatibility with local culture, language, and user preferences affect innovation resistance?
3. How does the use of smartphones in Erbil relate to self-efficacy and innovation resistance?
4. What role does motivation play in influencing consumers' resistance to smartphone innovation in Erbil?
5. How does the expectation for a better product impact consumers' resistance to smartphone innovation in Erbil?
6. What is the association between consumers' attitudes toward existing products and their resistance to smartphone innovation in Erbil?
7. How does the complexity of smartphone features influence consumers' resistance to innovation in Erbil?
8. What is the relationship between consumers' perceived risk and their resistance to smartphone innovation in Erbil?
9. In this particular regional context, how does consumer willingness to adopt new smartphone technology affect their reluctance to embrace innovation?

These research questions will help explore the influence of customer characteristics on innovation resistance in the context of smartphones in Erbil, Iraq, and provide valuable insights for both academics and practitioners in the field.

2. Literature review

2.1 Innovation Resistance

Resistance to technological innovation has been identified as one of the crucial success elements for its adoption (Leonard, 2004), and adoption has been characterized as the outcome of overcoming resistance (Szmigin & Foxall, 1998). Consumers are not open to change, according to the scholars who founded the discipline of innovation resistance, and would want to maintain the status quo (Sheth, 1981). According to Ram and Sheth (1989), resistance to innovation is a particular type of resistance to change. Researchers that study innovation resistance provide an explanation for unsuccessful inventions, claiming that before consumers accept innovations, they must overcome an initial attitude of resistance. Instead, than learning about customers' motives to adopt a new product or service, researchers in this field contend that it is more essential to focus on the reasons why they initially reject an innovation (Talke & Heidenreich, 2014; Claudy et al., 2015). This research investigates innovation resistance by taking a consumer characteristics approach. At the consumer persuasion stage, there is a focus on both active and passive innovation resistance because these types of resistance can be influenced by business decisions (Rogers, 2003). So, according to Talke & Heidenreich (2014), Claudy et al. (2015), Joachim et al. (2018), innovation resistance is a negative outcome of consumers' comparison of innovation-related qualities with the status quo. Due to consumer mental barriers, these innovation-specific features may receive a poor evaluation if the innovation causes users to deviate from their regular usage patterns, daily routines, or changes in their sociocultural environment, personal beliefs, or ingrained norms (Claudy et al., 2015).

This literature review makes an effort to identify and evaluate recent developments in our understanding of innovation resistance. The review will assist in narrowing the research question to focus on important areas that require more work, particularly in relation to innovation resistance in the context of smartphones. The willingness of a person to reject an innovation, either before or after determining the merits of the innovation, is known as innovation resistance. Resistance, according to Ram and

Sheth (1989), can arise from the timing of adoption, the amount of change that the user is expected to undergo, or the perceived disruption that the innovation causes in the consumers' daily lives and established routines, all of which "conflict with the consumers' prior belief structure." The two main branches of this review were generated by Heidenreich and Spieth's (2013) expansion of Ram and Sheth's paradigm to incorporate active and passive innovation resistance. Additionally, (Talke & Heidenreich, 2013) expands on prior research on innovation resistance to distinguish between passive resistance drivers, which follow a consumer predisposition to actually resist innovations prior to innovation evaluation, and active resistance drivers, which are mechanisms of resistance described as an outcome of an unfavorable innovation evaluation. They contend that resistance can exist among target customers even before an innovation evaluation.

Active innovation resistance

According to Heidenreich and Spieth (2013), active innovation resistance (AIR) is characterized as a "negative" attitude that develops from psychological and functional challenges as a result of an assessment of an innovation's characteristics. Users may develop a negative attitude toward the innovation if an attribute does not meet their tolerance threshold, which can result in "negative word of mouth communication, complaining behavior, and boycott" of the innovation (Kleijnen et al., 2009). This kind of opposition is intentional and can result from worries about costs, performance, and personal dangers involved in implementing new products. Recent empirical research has demonstrated how active innovation resistance to improvements in Mexico's agricultural production system was caused by perceived risks (Stanton, 2019).

According to Nabih et al. (2007), active innovation resistance is the attitude that results from a negative new product appraisal. This form of opposition is more deliberate and aggressive, and it is mostly based on characteristics unique to the innovation in question. It is defined as a deliberate non-purchase action taken in response to a poor assessment of an innovation. Can alternatively be described as the result of the customer's perceptions of specific characteristics that fall short of their expectations while evaluating the innovation (Sinkkonen & Laukkanen, 2008), which becomes a catalyst for building resistance barriers particular to the innovation. And once the hurdles exceed particular adopter tolerance thresholds, users will have a negative attitude toward the innovation until the threshold is crossed, according to the theories of Ram (1987) and Kleijnen et al. (2009). Active innovation resistance can originate from customer’s rejection based on the perceived or actual product functionality inadequacies or conflicts with society norms, values and individual usage patterns (Ram & Sheth, 1989; Bagozzi & Lee, 1999).

Three types of AIR were found by Szmigin and Foxall (1998) and included outright rejection, postponement, and opposition. An extreme kind of resistance known as outright rejection is the fast conclusion that a product does not provide "any worthwhile advantage" (Szmigin & Foxall, 1998). According to Woodside & Biemans (2005), these consumers favor using "older and still dominating technology" and emphasize maintaining the status quo. Postponement can happen as a result of a behavioral environment such situational variables (Belk, 1975), in which a consumer may sense value but lack the resources or technological know-how to benefit from it. Laggards are defined by Rogers (1995) in his adoption and diffusion theory as consumers who put off using a new technology until either other consumer show benefits from it or they notice a shift in habits happening nearby. The third form of AIR, opposition, is influenced by situational conditions as well. Consumers in this situation gather knowledge from the surrounding environment, and a lack of observable differentiated advantages would make them resist or oppose an innovation (Szmigin & Foxall, 1998). This type of resistance is also brought on by ingrained habits or thought patterns, where a person will not alter behavior unless there is clear proof that the product would improve their quality of life. This would apply to the

majority of consumers, with a proportionally smaller group genuinely wishing to change (Sheth, 1981).

The various sorts of barriers that make up AIR like Perceived risk, which is the conviction or worry that an apparatus may let the user down owing to insufficient testing or, more often, the user's lack of experience or confidence in a technology makes up the functional barrier (Joachim et al., 2018). The risk that an innovation would contradict with consumers' established views creates psychological obstacles (Laukkanen et al., 2008). Both tradition and image play a role in these obstacles (Ram and Sheth, 1989). Tradition-based restrictions are created socially and controlled by the community. As a result, if a new idea is seen as upsetting tradition, it can encounter opposition. The image barrier is linked to unfavorable opinions about the product's country of origin, which are then projected onto the innovation, leading to resistance.

Passive innovation resistance

The opposition to changes faced by customers when an innovation is initially introduced is referred to as passive resistance. Two things contribute to resistance: first, the propensity for change-resistance among customers, and second, the contextual and situational variables that affect how satisfied customers are with the available technology. It has been demonstrated in (Ram & Sheth, 1989) and (Szmigin & Foxall, 1998) that customers will resist new technologies even if they do not purposefully consider them. According to (Talke & Heidenreich, 2013), passive innovation can be explained by people's propensity to resist change, their satisfaction with the status quo, or a combination of the two (Ram, 1987). This is similar to how (Bagozzi & Lee, 1999) and (Szmigin & Foxall, 1998) state it.

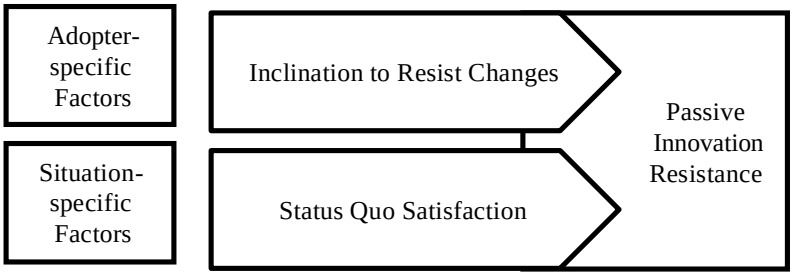

Figure 2: Sources of Passive Innovation Resistance
Source: Talke & Heidenreich (2013)

According to Heidenreich and Spieth (2013), passive innovation resistance (PIR) is a tendency to oppose ideas before they have ever been evaluated. According to Ram (1987) and Heidenreich et al. (2016), PIR can happen when customers are satisfied with the status quo and resist interacting with new products out of concern that the innovation would upset their psychological equilibrium. This resistance appears when the amount of routine (habit) change needed to accept the innovation outweighs the benefits that are thought to be present (Heidenreich & Kraemer, 2015). A multidimensional PIR framework that accounts for environmental and cognitive factors that influence one's propensity to resist change was created by Heidenreich and Handrich in 2015. Situational PIR is a form of status quo satisfaction that prevents the desire to adopt changes in a given scenario. Heidenreich and Handrich (2015) discovered that customers' propensity to reject innovation is more strongly influenced by cognitive PIR. According to Heidenreich et al. (2016), cognitive PIR measures how much a person's cognitive style prevents them from considering and utilizing new items. Four personality-specific characteristics that affect cognitive PIR have been found by Oreg (2003): Cognitive rigidity, in which persistence prevents the consideration of alternatives, emotional reaction, which is an inability to cope with the imposed changes of an innovation, and a user's short-term focus on the inconveniences involved in adjusting

to an innovation rather than on the longer-term benefits are all examples of user resistance to change. Stryja and Satzger (2019), in recent study, defined cognitive resistance as "any non-rational and negatively biased evaluation of an innovation," whereby customers display an unconsciously and irrationally strong preference for "incumbent" goods and services.

2.2 Innovation Resistance Theory (IRT)

In order to better explain consumers' resistance-focused behavior, the IRT provides a theoretical framework for customer resistance (Ram & Sheth, 1989). According to Hew et al. (2017), innovation resistance is behavior that results from rational consideration and decision-making regarding the adoption and use of innovation due to the potential changes brought about by modifications to the current status quo and departures from the current belief system. The success or failure of innovations can be significantly influenced by consumer resistance (Ram & Sheth, 1989). Users may exhibit resistance-oriented behavior as a result of the changes that the usage of innovation has caused in their lives and behaviors (Ram & Sheth, 1989). According to Heidenreich and Handrich (2015), customer resistance can also be categorized as active and passive resistance. The functional barriers suggested by IRT can be used to study active resistance, a resistive behavior that arises from the characteristics of innovations (Yu & Chantatub, 2016). These represent the barriers to innovation adoption and usage brought on by the conflicts emerging from the behavioral inconsistencies brought on by the innovation's use, value, and risk (Yu & Chantatub, 2016). The psychological barriers suggested by IRT can be used to study passive resistance, which, in contrast, arises as a result of conflicts with the exercised beliefs (Yu & Chantatub, 2016). Tradition and image are two different categories of psychological obstacles. The IRT is a suitable framework for analyzing customers' resistance to innovations due to its comprehensiveness (Ma & Lee, 2018). Furthermore, according to Gupta and Arora (2017), the existing theoretical frameworks (such as diffusion of innovation and the technological adoption model) do not concentrate on studying resistance to user advances. Researchers now have a theoretical foundation for understanding resistance to innovations because to the IRT's emphasis on describing customers' reactions to any product in terms of barriers including usage, risk, value, tradition, and image. Due to the regular introduction of innovations into the market, this becomes even more crucial. The risk barrier in this study is defined as perceived risk, while additional barriers or characteristics that contribute to innovation resistance include advantage, compatibility, self-efficacy, motivation, expectations for improved products, attitudes toward current products, and complexity.

Sheth (1981) referred to the idea of innovation resistance as the "less developed concept" in diffusion research. He conducted study on the psychology of innovation resistance and put up two psychological notions that appear to be highly helpful in comprehending this psychology. These psychological constructs include habitual behavior toward current products and the perception of dangers involved in adopting innovations. Following this model, Ram (1987) discussed innovation resistance in more detail and proposed a detailed model of innovation resistance based on this model. According to Ram (1987), innovation resistance can be seen as dependent on three sets of factors: perceived innovation characteristics, consumer characteristics, and characteristics of propagation mechanisms. Later, Lee and Yu (1994) updated Ram's model, arguing that consumers' resistance is independent of the propagation mechanism because the latter can only affect innovation diffusion.

Ram and Sheth (1989) found that one or more of the adoption barriers are the root reasons of innovation resistance. These obstacles include utilization, value, risk, image, and traditional barriers. The innovation encounters a usage barrier when it is incompatible with the consumers' current workflow, practices, or habits. The economic

value of an innovation that the innovation does not provide a strong performance-to-price relative to its alternative products is the basis of the value barrier. Risk barrier is a measure of the potential risks that an innovation might pose. In addition to "a preference for existing, familiar products and behaviors over novel ones" (Arnould et al. 2004), traditional barriers typically concern the changes that an innovation may make in daily activities. The image barrier is linked to the innovation's identity (from its inception), such as the product category, brand, or country of origin (Ram & Sheth 1989).

By providing a thorough definition and explanation of the many sorts of barriers, the Innovation Resistance theory primarily aids in understanding the consumer's varied attitudes toward innovations (Kaur et al. 2020). The innovation resistance hypothesis of Ram and Seth (Ram and Sheth, 1989) divides adoption hurdles into two categories: functional barriers (value, danger, and usage) and psychological barriers (image and tradition). The value that the innovation gives and the risk that the consumer assumes by utilizing the innovation are the key areas of attention for the functional barriers. According to Ram and Sheth (1989), the psychological obstacles are primarily concerned with how difficult customers perceive it to adopt the innovation or modify their current routines.

2.3 Consumer Characteristic Factors that Affect Innovation Resistance

Research that examines customer resistance to innovation as a distinct type of behavior, conceptually distinct from innovation adoption, is specifically encouraged by Gatignon and Robertson (1989). According to a number of academics, despite the presence of numerous "adoption-related" qualities, active innovation resistance may nevertheless occur because of variables other than the characteristics outlined in adoption research (Garcia & Atkin, 2002). However, according to other academics, studies on innovation features like Rogers' diffusion theory may provide important insights and shouldn't be completely disregarded (Molesworth & Suortti, 2002; Ram, 1987). In order to provide a more comprehensive view of this crucial topic, the following study connects such theoretical thoughts on the consumer resistance theory with Rogers observed innovative features.

There are two broad categories of elements that contribute to consumer resistance (Gatignon & Robertson, 1989; Herbig & Day, 1992, for examples). First, it's possible that customers would resist innovations that call for a modification of their long-standing behavioral patterns, conventions, habits, and traditions. Second, it's possible that consumers will resist innovations that in some manner create a psychological conflict or issue for them. Similar to this, Tornatzky and Klein (1982) come to the conclusion that compatibility is one of the few elements of Rogers' theory that consistently corresponds to adoption. They define compatibility as the degree to which an innovation is viewed as consistent with the current values, habits, and prior experiences of the potential adopter. According to Kim (2005), there are two different types of elements that influence customer resistance and are based on both consumer characteristics and innovation features. The effectiveness and impact of new products on consumers influence the level of resistance created, and innovation features are tied to these factors. Additionally, it has the ability to forecast customer uptake and anticipated resistance. Some academics have discovered that the qualities of innovation offer a better explanation for customers' attitudes toward innovation. The psychological traits of customers contribute to their consumer characteristics, such as how they perceive the innovativeness of a given product. The mental state of the consumer affects their resistance to innovation. Consumer attributes have an impact on innovation and how consumers choose to use new products. The following factors are examined in this study: relative advantage, compatibility, self-efficacy, motivation, expectations for better products, attitudes toward current products, complexity, and perceived risk. To increase the likelihood that an invention will be successful, it is essential to comprehend these aspects and how they impact customer

resistance (Ram 1987; Yu & Lee 1994). The in-depth analysis of each factor is provided below.

Relative Advantage:

The perceived product image of an innovation should have an impact on resistance, according to theory about psychological factors. In literature on the adoption of innovations, image and relative advantage are sometimes implicitly muddled (Rogers, 2003). According to Rogers and Shoemaker (1971), an invention's relative advantage is "the extent to which an innovation is perceived as being better/superior than the idea it supersedes." Relative advantage can be demonstrated by financial success, social advantages, time savings, dangers eliminated, and perceived usefulness (Roberts & Pick, 2004). According to Tornatzky and Klein (1982), relative advantage has a significant role in deciding the acceptance of innovations and has a negative impact on customer resistance. According to Agarwal and Prasad (1997), relative advantage is the key variable that predetermines whether consumers would embrace or reject innovation. According to Tan and Teo (2000), an innovation's rate of adoption is positively correlated with perceived relative advantage, and consumer resistance is inversely correlated with perceived relative advantage (Dunphy & Herbig, 1995).

Compatibility:

According to Dunphy and Herbig (1995), the level of compatibility is determined by how much potential customers feel the new product adheres to their sociocultural norms or is consistent with their preexisting beliefs, prior experiences, style, and behavioral patterns. It is particularly significant in technical marketplaces and has been viewed as a crucial element in attitude formation (Saaksjarvi, 2003). "No need" is a common reason given by diverse consumers for opposing or not embracing new products. Innovation compatibility has two components (Tornatzky & Klein, 1982): It could either (1) relate to conformity with the standards or norms of the future adopters, or (2) reflect consistency with the adopters' current customs. The first is more of a psychological or cognitive compatibility (e.g., with how people feel or think about a technology), whereas the second is more of a practical or operational compatibility (e.g., with people's habits). Due of its direct impact on purchase intention and other criteria, compatibility may take the lead in the evaluation of innovations (Holak & Lehmann, 1990). According to research, compatibility has a significant and direct beneficial impact on purchase intentions. If consumers consider an innovation to be compatible, they are more likely to learn about it and seek out information about it (Holak & Lehmann, 1990). On the other side, consumers' intentions to embrace new products are influenced by the compatibility of the old/existing products, which results in less consumer adoption intentions and more consumer resistance (Dunphy & Herbig, 1995).

Self- efficacy:

Self-efficacy is "an individual's perception of his or her ability to use a technologically innovative product," according to Compeau and Higgins (1995). Self-efficacy is a factor in how easily and effectively something is seen to be used. According to Bandura (1977), it can also be described as "an individual's self-confidence in his or her ability to perform a behavior". Self-efficacy is the belief in one's capability and competence to direct and carry out the actions necessary to achieve a desired result. Self-efficacy has been discovered to have the ability to predict intents to employ a variety of technological innovation, according to certain researchers (Hill et al., 1986). Even though there are better/more advanced products available, a buyer with low self-efficacy is likely to choose a product that is simple to use. Self-efficacy was empirically confirmed by Ellen et al. (1991) as another factor influencing resistance to technological changes. In their studies of innovation resistance and diffusion, other researchers have also cited consumer self-efficacy as a key element (Tan & Teo, 2000).

Motivation:

"Goal-directed arousal" that fuels consumer need is the definition of motivation. It involves the interior workings

that give behavior strength and direction. Power and direction both refer to how strong, strong, and focused the activity in question is, while direction gives the conduct a clear goal (Lee et al., 2007). Behavior can be driven by intrinsic or extrinsic motivation, according to Herzberg et al. (1959). Based on this, there are two categories of motivation: extrinsic motivation and intrinsic motivation, both of which act as triggers for particular behavior outcomes. According to Lee et al. (2007), in the context of technology adoption, perceived advantage and perceived enjoyment are typical instances of extrinsic and intrinsic motivation, respectively.

Expectations for better products:

Ram's innovation resistance model states that "inhibitory effect on the adoption of other innovations" is one aspect that influences innovation resistance. The adoption of one innovation product may, in some situations, limit the adoption of additional innovations (Ram, 1987). A person is unlikely to buy another new digital camera with better performance and more features within a short period of time after purchasing an innovative product, such as pricey high resolution digital cameras. The person is delaying making purchases. He or she justifies their decision by asserting, quite well, that if they wait, a superior product with a lower price tag will soon be available (Ram & Sheth 1989). Products built on innovative technologies are particularly vulnerable to this problem. For instance, even in the business world, many organizations choose to postpone updating their computer systems until a new generation of products with a better performance-to-price ratio become available (Ram & Sheth 1989). The terms "expectation for better products" and "inhibitory effect on the adoption of other innovations" were chosen by Lee and Yu (1994) and Kim (2005) respectively because they are simpler to understand and have a more definite meaning. The phrase "expectation for better products" will also be used in this investigation.

Attitude towards existing products:

This is a general component that looks at how customers feel about current items and is impacted by tradition and how well current products can meet consumer requirements and wants. The respect for culture, social norms, and traditions is demonstrated by the individual's positive attitude toward the past and present, according to Schwartz (1992). The tradition worth pertains to the consumer's favorable opinion of the goods they are presently utilizing. Customers would then be reluctant to switch from their outdated but still useful items to revolutionary ones. The lifespan of products is shortening, the market is becoming more competitive, new items are entering at a much faster rate, and existing products/technologies frequently become antiquated very rapidly and without warning. Because of this, consumers have many options to move from their current products to far more sophisticated or better new ones. Customers that have a strong preference for current items will, however, reject new ones and stick with their old ones until they stop working (Wang et al., 2008). Researchers have also discovered that consumers who are dissatisfied with the current products are more likely to make a change and purchase new items, whereas consumers who are happy with the current products would continue to use them (Karjaluoto et al., 2002).

Complexity:

Complexity has been linked adversely to innovation diffusion and positively to innovation resistance according to several scholars (Dunphy and Herbig, 1995). According to common consensus (Holak & Lehmann, 1990), consumers are more likely to adopt innovative items that are simpler. According to innovation research, complexity is yet another significant barrier to adoption (Rogers, 2003). This complexity has to do with how challenging it is to use and comprehend an innovation. Scholars are paying more and more attention to the cognitive work involved in adopting innovations (e.g., Kleijnen, de Ruyter, & Wetzels, 2007), which is emphasized as a factor in innovation resistance (Oreg, 2006; Ram, 1989). More specifically, as consumer choices expand, information overload is acknowledged as a concern that is becoming

more significant. Information overload is a reaction to the information, knowledge, and innovations that are produced at an ever-increasing rate (Herbig & Kramer, 1994). As a result, it is challenging for the consumer to compile, analyze, and compare all the information in order to compare the options that are available (Herbig & Day, 1992).

Perceived risk:

Risk was first proposed by Ostlund (1974) as an additional dimension in the dissemination and adoption of innovation. Ram (1987) later included it as another aspect determining consumers' resistance to the innovation. Here, we're discussing the level of perceived risk connected to embracing & utilizing innovation. It is thought to be adversely associated to adoption and favorably related to consumer resistance (Ram, 1987). Financial, performance, physical, time-based, social, and psychological hazards are the six main categories of perceived risk that researchers have identified (Cherry & Fraedrich, 2002). Consumer understanding of the perceived risk of adopting an innovation also affects consumer resistance to it (Shoemaker & Shoaf, 1975). Customers frequently have many concerns about implementing innovations, particularly with relation to performance (Garcia & Atkin, 2002), and as a result they believe that using innovations will likely have negative effects (Martinko et al., 1996). Consumers' perception of risk is determined by how likely they believe these unfavorable events are. Physical, economic, functional, and social risks have all been discussed in relation to consumer resistance in literature (Bredahl, 2001; Saba et al., 2000). Consumer perceptions of the possible harm to people or property that the innovation may create are referred to as physical risk (Klerck & Sweeney, 2007). The cost of an innovation and economic risk are related. Functional risk is concerned with the unknown of how well the invention will perform. Consumers' perception of how their social surroundings (such as their reference groups) will react to their adoption is referred to as social risk.

3. Materials and Methods

Population of the Study: The total group of people or things that the researcher is interested in researching is referred to as the study's population. The bigger group is where a sample for the study is taken from. Depending on the research question and goals, the study's population may change. It could be a collection of individuals, a company, or any other thing or entity that is pertinent to the study issue. The generalizability and validity of the research findings will be impacted by how properly and exactly the researcher defines the study's population. To ensure that the results can be applied to a larger group, the sample chosen for the study should be representative of the study's population. The sample is drawn from the sizable population of smartphone users in Erbil, which is located in the Kurdistan region of Iraq.

Sample Size: The quantity of people or things included in a study is referred to as its sample size. Because it can impact the precision and generalizability of the study's conclusions, sample size is a crucial factor in research. Larger sample sizes typically yield more accurate and trustworthy results because they lessen the impact of random variation and boost the study's statistical power. According to the proposal, the sample size for the study must be at least 100. In addition, by using the structural mathematical presentation, many studies took advantage of 100–150 adequate sample sizes. Taking into account prior research, the sample size for the current study is 100. Thus, the current study complies with the minimum requirements suggested by earlier research.

Data Collection Procedure: The exact procedures or methods utilized to collect data for a research study are referred to as data collecting procedures. Because the accuracy and validity of the study's conclusions can be greatly impacted by the quality and dependability of the data collected, the data gathering process is an important element in the research process. The questionnaire is split into two sections, the first of which is used to collect sociodemographic data that will be used to determine the background

variables. The eight psychological barriers, or the consumer characteristics, that serve as the major factors are captured and measured by the questions in the second section. A set of questions is created for each barrier in order to measure the many aspects of each barrier and how they affect the customer's buying intention. In order to achieve low dropout rates and high response rates, the questionnaire was purposefully kept brief.

The researcher used a survey technique to find out whether customers intended to reject technology improvements like smartphones in order to validate the suggested model. The questionnaire was developed based on analyses of prior studies to ensure content validity. The instruments' phrasing was changed to suit our situation. Check the choice that most accurately reflects each participant's level of agreement with the statement. A Likert scale was used to assign a maximum of five points to each topic, ranging from (1) for strongly disagreeing to (5) for strongly agreeing. The whole survey was distributed to each respondent in order to gather data. The entire survey was conducted via self-report. 110 questionnaires were distributed to the respondents in order to reduce the research's biases and collected 100 surveys.

Data Analysis: Data analysis is the act of processing and interpreting information gathered during a research study in order to make inferences, spot trends, and test hypotheses. For creating valid and reliable results and making appropriate conclusions, effective data analysis is essential. In this study, the researcher performed correlation analyses to establish a link between independent variables and consumer resistance to innovation using SPSS version 26.0.

4. Results

1. Socio Demographic Characteristics of Respondents

The properties of a dataset can be summed up and described using descriptive statistics. Descriptive statistics are frequently expressed as percentages and frequencies. Table 1 displays the sociodemographic and economic characteristics of the study's respondents. According to the study, 31% of respondents were between the ages of 23 and 30, 25% were between the ages of 31 and 38, 14% were between the ages of 39 and 46, and 5% were older than 41. The study also revealed that 25% of respondents were under the age of 28. The majority of respondents, according to this result, are young people. The relationship between consumer resistance to smartphones and innovation and age is complex. Generally speaking, older consumers may be more resistant to innovation when it comes to smartphones, but this is not a hard and fast rule. Some older consumers may be early adopters of new technology, while some younger consumers may be more resistant to change.

One reason why older consumers may be more resistant to innovation is that they may be more set in their ways and less willing to learn new things. Additionally, they may not see the value in upgrading to the latest smartphone models and may be satisfied with what they already have. Younger consumers, on the other hand, might be more willing to experiment with new technologies and might view the newest smartphone models as a status symbol or a means of staying in touch with friends and social media. 50 percent of responders are female and 50 percent are male. According to several researches, women may be more resistant to technological progress, particularly smartphone innovation. One explanation for this can be the fact that many technological products frequently do not have women as their major target market, which might result in a lack of comfort and confidence with new technology. Additionally, when it comes to smartphone features and functioning, women may have different priorities and preferences, which may affect how eager they are to accept novel innovations.

However, other research has found that men may be less open to smartphone innovation than women. Men, for instance, could be more prone to remain with a specific brand or model of smartphone that they are accustomed to and are comfortable with. Men may also have more confidence in technology and be less inclined to adopt new advances if they do not immediately see a

clear advantage or benefit. 100 people were surveyed, and their marital status was a question. The responses' frequency distribution was %54 single. According to this table, 50% of respondents were in primary and high schools, respectively. Consumer resistance to smartphone innovation and education is a complicated interaction that depends on a number of variables. In general, those who have more education may absorb new technologies more readily and be less resistive to innovation than people who have less knowledge. Higher educated people typically have more exposure to technology and may be more aware of the advantages of using innovative items, which could be one explanation for this. Additionally, higher income levels have been linked to better education levels, which may enhance access to technology and lower the barrier to adopting novel innovations by lowering costs. However, a salary analysis of 100 employees revealed that 79% had IQs below 500,000. In general, people with higher incomes may adopt new technologies

more readily and be less resistive to innovation than people with lower incomes. One explanation for this is that people with higher income levels would have more money available to spend in new technologies and might be more prepared to take chances with innovative advancements. Higher levels of education can also be linked to higher income levels, increasing exposure to technology and knowledge with the advantages of utilizing new products.
Smartphone manufacturers can better satisfy the needs of their target market by designing devices that take into account the elements that affect customer resistance to innovation. Innovative features that appeal to particular demographic groups, such as those with lesser levels of education, can be included in this, as well as focused marketing campaigns, user-friendly interfaces, and other features.

Table 1. Descriptive statistics (frequency statistics) of the demographic variables

Variables		Frequency	Percentage %
Age group	Less than 22	25	25.0
	23 - 30	31	31.0
	31 - 38	25	25.0
	39 - 46	14	14.0
	More than 47	5	5.0
	total	100	100.0
Gender	Male	50	50.0
	Female	50	50.0
	Total	100	100.0
Marital-status	Married	46	46.0
	Single	54	54.0
	Total	100	100.0
Education	Higher- education	11	11.0
	Bachelor	39	39.0
	High-school	31	31.0
	Primary-school	19	19.0
	Total	100	100.0
Income	Less than 500	79	79.0
	501-799	15	15.0
	More than 800	6	6.0
	Total	100	100.0

2. Reliability and inter-correlation coefficients for Innovation

Table 2 shows the inter-correlation coefficients and reliability test summaries for the innovation dimensions. Reliability statistics can be used to evaluate the consistency and dependability of these metrics. Innovation can be quantified in a variety of ways. A measure of internal consistency called Cronbach's alpha is calculated by looking at how closely items in a measure are related to one another. Overall, the dimensions demonstrate acceptable internal reliability, with self-efficacy and compatibility showing high reliability. However, the dimensions of expectation for better product, attitude towards existing products, complexity, and perceived risk exhibit slightly lower but still acceptable levels of reliability.

Table 2. Analysis of Internal Reliability

Dimensions	Cronbach's Alpha
Advantage Relative	0.745
compatibility	0.811
Self-efficacy	0.853
Motivation	0.799
Expectation for better product	0.704
Attitude towards existing products	0.701
Complexity	0.712
Perceived Risk	0.710

3. Binary logit model

The binary logit model is a statistical model used for binary classification tasks, where the response variable can only take two values, commonly recorded as 0 and 1. The binary logit model assumes that the predictor variables are linear functions of the logarithm of the event's probability of occurring. The model is expressed as follows:

$$\text{logit}(p) = \beta0 + \beta1x1 + \beta2x2 + ... + \beta kxk$$

Where p is the probability of the event occurring, β0 is the intercept, β1, β2… βk are the coefficients of the predictor variables x1, x2... xk, respectively. To make predictions, the model calculates the predicted probability of the event occurring for a given set of predictor variables, using the following formula:

$$p = 1 / (1 + \exp(-z))$$

Where z is the linear combination of the predictor variables and their coefficients, i.e., $z = \beta0 + \beta1x1 + \beta2x2 + ... + \beta kxk$.

The model is trained by estimating the coefficients using a maximum likelihood estimation strategy, which aims to maximize the probability of detecting the values of the response variable given the predictor variables and the model parameters. Several goodness-of-fit metrics, including the likelihood ratio test, deviance, and Akaike information criterion (AIC), are used to evaluate the model fit's quality.

The present regression analysis employed logistic regression to model the association between the dependent variable, innovation resistance, and several independent variables, including advantage relative, compatibility, self-efficacy, motivation, expectation for a better product, attitude toward current products, complexity, and perceived risk. Logistic regression is appropriate when the dependent variable is binary, as in this case, where innovation resistance is either present or absent. As well as, logistic regression provides odds ratios, which are easier to interpret compared to other regression techniques, especially when dealing with binary outcomes.

Results for binary logit model for consumer resistance are given in Table 3. According to chi-square value (15.51) the model is statistically significant, since p-value < 0.05. Therefore, we draw the conclusion that the relationship between the dependent and independent variables is highly significant.

According to the findings of the logistic regression analysis, self-efficacy, motivation, expectation for a better product, complexity, and perceived risk have been found to be significant factors on consumers' resistance to innovation, while there is no statistically significant relationship between the dependent variable and some independent variables like advantage relative, compatibility, and attitude toward existing products.

The results of logistic regression revealed that, the coefficient of 0.450 suggests a

positive relationship between the advantage relative variable and innovation resistance. However, with a p-value of 0.481, this relationship is not statistically significant. The odds ratio of 1.568 indicates that for every one-unit increase in advantage relative, the odds of innovation resistance increase by a factor of 1.568. For the compatibility the coefficient of 0.194 suggests a positive relationship between compatibility and innovation resistance, but this relationship is not statistically significant with a p-value of 0.785. The odds ratio of 1.214 indicates a slight increase in the odds of innovation resistance with an increase in compatibility. The coefficient of -0.881 indicates a negative relationship between self-efficacy and innovation resistance. With a p-value of 0.040, this relationship is statistically significant. The odds ratio of 0.415 suggests that higher levels of self-efficacy are associated with lower odds of innovation resistance. The results indicated that the odds ratio of self-efficacy for innovation (0.415) is times less likely to involve consumer resistance. The motivation has a coefficient of 0.776 that suggests a positive relationship between motivation and innovation resistance, and this relationship is statistically significant with a p-value of 0.001. The odds ratio of 2.173 indicates that higher levels of motivation are associated with higher odds of innovation resistance. Moreover, the results indicated that the odds ratio of the motivation for innovation (2.173) is times more likely to involve in consumer resistance. Expectation for a better product has a positive relationship with innovation resistance with the coefficient of 0.560, and this relationship is statistically significant with a p-value of 0.003. The odds ratio of 1.750 indicates that higher expectations for a better product are associated with higher odds of innovation resistance and it indicates the times more likely to involve consumer resistance. The coefficient of -0.408 suggests a negative relationship between attitude towards existing products and innovation resistance, but this relationship is not statistically significant with a p-value of 0.485. The odds ratio of 0.665 indicates that a more positive attitude towards existing products is associated with lower odds of innovation resistance. For the complexity the relationship is positive with coefficient of 1.599 and a p-value of 0.011. The odds ratio of 4.947 indicates that higher levels of complexity are associated with higher odds of innovation resistance and the odds ratio of complexity (4.947) times more likely to consumer resistance. The coefficient of 1.882 suggests a positive relationship between perceived risk and innovation resistance, and this relationship is statistically significant with a p-value of 0.002. The odds ratio of 6.568 indicates that higher levels of perceived risk are associated with higher odds of innovation resistance with (6.568) times more likely to innovation resistance. As well as the coefficient of -0.988 represents the baseline level of innovation resistance when all other independent variables are zero. With a p-value of 0.208, the constant term is not statistically significant. The odds ratio of 0.372 suggests that the odds of innovation resistance decrease by a factor of 0.372 when all other variables are held constant. The value of -2 log likelihood indicates the goodness-of-fit of the logistic regression model and lower values suggest a better fit of the model to the data. Nagelkerke R2 is a measure of the proportion of variance in the dependent variable (innovation resistance) explained by the independent variables. It ranges from 0 to 1, with higher values indicating better explanatory power of the model.

Table 3. Results of the logistic regression model

Variables	Coefficient	S.E.	Wald-test	P-value	Odd-Ratio
Advantage Relative	0.450	0.638	0.497	0.481	1.568
Compatibility	0.194	0.711	0.075	0.785	1.214
Self-efficacy	-0.881	0.657	1.798	0.040	0.415
Motivation	0.776	0.663	1.372	0.001	2.173
Expectation for better product	0.560	0.655	0.730	0.003	1.750

Attitude towards existing products	-0.408	0.585	0.487	0.485	0.665
Complexity	1.599	0.631	6.426	0.011	4.947
Perceived Risk	1.882	0.603	9.747	0.002	6.568
Constant (Innovation resistance)	-0.988	0.784	1.586	0.208	0.372
-2 log likelihood	82.607				
Nagelkerke R^2	0.285				
X^2 (p-value)	15.51 (0.020)				

5. Conclusion

In the context of Erbil, Iraq/Kurdistan region, the results of this study have produced a number of significant findings that shed light on the variables influencing consumer resistance to smartphone innovation. The following is a summary of the main conclusions and their implications: The study findings suggest that while younger individuals, particularly those under 30, constitute a significant portion of smartphone adopters, age alone does not consistently predict innovation resistance. Gender, marital status, and income levels did not yield statistically significant differences in innovation resistance among respondents. While higher education levels hint at a greater propensity for smartphone adoption, education alone does not fully explain innovation resistance. Surprisingly, income levels did not directly correlate with resistance to smartphone advancements, implying that resistance is shaped by multifaceted factors beyond income alone.

The study evaluated a number of innovation-related characteristics, such as advantage relative, compatibility, self-efficacy, motivation, expectation for a better product, attitude toward existing products, complexity, and perceived risk. Notably, it was discovered that perceived risk, complexity, self-efficacy, motivation, and expectations for the product were significant factors influencing consumer resistance. These characteristics are components of customers' psychological and behavioral tendencies that may affect their willingness to adopt smartphone innovations.

The binary logit model provided statistical significance to the relationship between innovation resistance and several consumer characteristic dimensions. Self-efficacy was found to have a negative effect on resistance, suggesting that consumers who have higher self-efficacy are less likely to resist smartphone innovations. Motivation, Expectation for a better product, complexity, and perceived risk were found to have positive effects on resistance, indicating that consumers with higher motivation to adopt innovations and those who perceive higher complexity and risk are more likely to resist.

Interestingly, the study did not find statistically significant relationships between innovation resistance and some dimensions, such as advantage relative, compatibility, and attitude towards existing products. This suggests that these factors may have a less pronounced effect on resistance in this specific context.

In conclusion, based on the results, the factors that seem to have the most significant impact on the outcome are "Motivation," "Expectation for better product," "Complexity," and "Perceived Risk." These variables should be given more attention in further investigations or decision-making processes related to the studied outcome. However, it's also important to consider the practical significance and context of these findings when making real-world conclusions or decisions. Moreover, this study underscores the multifaceted nature of innovation resistance and the need for a nuanced understanding of consumer behavior. It confirms that age, gender, and income alone do not suffice as predictors of resistance, emphasizing the importance of psychological factors such as self-efficacy, motivation, expectation, complexity, and perceived risk in shaping consumer attitudes toward smartphone innovations. Finally, this research contributes valuable insights into the factors that influence consumer resistance to smartphone innovations in Erbil city. It highlights the complex interplay of socio-demographic characteristics, psychological factors, and economic factors in shaping consumer behaviors regarding innovation

adoption. The findings can be instrumental for smartphone manufacturers, marketers, policymakers, researchers interested in understanding and addressing consumer resistance to technological innovations, in developing targeted strategies to address resistance, enhance product design, and improve market penetration.

Recommendations:

In light of the findings from the study conducted in Erbil, Iraq, on consumer resistance to smartphone innovation, the following suggestions might be made:

1. In order to make informed decisions about the adoption of smartphone innovation, firms need to prioritize and pay close attention to certain elements, such as perceived risk, complexity, expectation for a better product, and motivation.
2. When drawing conclusions or making decisions for the real world, the organizations need to take into account the context and practical significance of the research findings. Recognize that customer behavior might change depending on the situation, and that tactics should be modified accordingly.
3. The companies must acknowledge the dynamic nature of consumer attitudes and behavior toward innovation. Therefore, to effectively deal with disagreement and encourage the acceptance of innovations, continued research and strategy adaption are crucial.

Data Availability:

The data used to support the results of this study has been included in the article.

Conflict of Interest:

The authors declare that they have no conflicts of interest.

Funding Sources:

No financial support was received.

Acknowledgments:

None.

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