BRATISLAVA UNIVERSITY OF ECONOMICS AND BUSINESS

FACULTY OF ECONOMICS AND FINANCE

SELF-REPORT OF DISSERTATION

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Self-report of Dissertation

The economic justification of intermediation in the insurance market

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1. An Overview of the current status of the issues addressed in the dissertation at home and abroad

The insurance sector is undergoing substantial transformation, driven by technological advancements, changing consumer expectations, and evolving distribution models (Albrecher et al., 2019). Insurance intermediaries play a critical role in reducing transaction costs, addressing information asymmetries, and enhancing market efficiency (Berger et al., 1997; Eckardt & Räthke-Döppner, 2010; Focht et al., 2013; Schwarcz & Siegelman, 2015). They act as vital connectors between insurers and clients, ensuring that insurance products align with customer needs (Cummins & Doherty, 2006; Scholtens & van Wensveen, 2000).

Recent literature has increasingly examined service quality and intermediary-client relationships, showing their relevance for client satisfaction, loyalty, and retention (Beloucif et al., 2004; Dominique-Ferreira, 2018). However, despite advances, gaps remain regarding how intermediaries adapt to rising service expectations in the digital age. There is a clear need for deeper empirical analysis of the quality of insurance intermediation and its determinants in today's evolving market context.

Theories of financial intermediation provide a conceptual foundation for understanding how intermediaries reduce market inefficiencies. Key texts in this area, such as those by Benston and Smith (1976) and Diamond (1984), explain how intermediaries emerge to mitigate market frictions, including information asymmetry, high transaction costs and search inefficiencies. By pooling expertise and establishing trust-based relationships, intermediaries enhance the efficiency and welfare of complex financial markets by improving matching.

Within the insurance sector, intermediaries play a particularly significant role. Insurance products tend to be complex and long-term, involving contingent claims that are difficult for the average consumer to evaluate. Consumers typically have limited financial literacy and engage in these transactions infrequently, which exacerbates the challenges of navigating this market. Insurance intermediaries — brokers and agents — help clients assess risk, select appropriate products, and manage ongoing policy relationships (Eckardt, 2007; Cummins & Doherty, 2006).

Traditionally, insurance intermediaries have been categorised as either information or transaction intermediaries (Eckardt, 2007). Information intermediaries primarily process and provide market-relevant data, while transaction intermediaries actively support clients in purchasing and administering insurance policies. Brokers act independently in their clients' interests, offering a broad range of products from different insurers. Agents, on the other hand, represent one or more insurance companies and are contractually bound to their principals (Posey & Yavas, 1995; Kochenburger, 2020). Although their roles differ in terms of loyalty structures, legal obligations, product access and compensation schemes, both types of intermediaries contribute fundamentally to the functioning of the market by improving product matching, increasing transparency and reducing transaction costs.

The ongoing digital transformation of financial services has introduced new dynamics into the field of intermediation. As described by Philippon (2016) and Buchak et al. (2018), digitalisation reduces search costs and enables broader market access through online platforms and algorithmic matching. However, although digital tools offer efficiency gains, they often fail to replicate the personalised advice and trust associated with traditional intermediaries. This creates a paradox: technology enhances reach and transparency, yet it can also weaken the relational quality of intermediation, which is particularly important in insurance, where long-term contracts and trust are critical.

Recent literature has moved beyond the dichotomy of brokers and agents, providing a more nuanced view of the functions that intermediaries perform. Building on the Theory of Financial Intermediation (Scholtens & van Wensveen, 2000), Stricker et al. (2023) argue that insurance intermediaries fulfil up to eight distinct roles: matchmaker, administrator, regulator, risk manager, facilitator, aggregator, innovator and orchestrator.

While the literature has primarily focused on the matchmaking function of reducing search costs and aligning consumer needs with suitable offerings (Cummins & Doherty, 2006; Karaca-Mandic et al., 2018), other roles are also receiving attention. For example, administrators enhance operational efficiency and communication (Bailey & Bakos, 1997), while regulators mitigate moral hazard and adverse selection through continuous monitoring (Schwarcz, 2021; Liu et al., 2017). As risk managers, intermediaries analyse individual exposures and propose mitigation strategies (Maas, 2010); however, this role remains under-explored. Facilitators enable access to insurance markets, particularly for underserved segments, while aggregators enhance consumer bargaining power by pooling demand.

The role of the innovator, which is increasingly being taken on by Insurtech platforms, is driving the development of new products and technological solutions in order to meet the ever-changing expectations of clients (Focht et al., 2013; Stoeckli et al., 2018). However, orchestrators go even further by embedding insurance within holistic financial planning and adding value through cross-domain services, such as investment advice and estate planning.

Despite these expansions, the welfare implications of intermediation remain a central theme. Based on Rose's (1999) model of the risk-neutral monopolistic information intermediary, Eckardt (2007) shows that intermediaries work with incomplete yet symmetrical information. Insurers offer different products, but do not disclose information directly. Instead, intermediaries reveal product quality and facilitate matching. Assuming linear utility functions under risk neutrality, a consumer j's utility from a product i is defined as:

$$U_j\,(X_i) = \beta_j . X_i \tag{1}$$

A consumer opts for intermediation if the expected utility from an intermediary-recommended product $X_i$minus the fee F^I exceeds the utility from continued searching:

$$U_j^I = \left(\beta_j\,.X^I - F^I\right) > U_j\,(x^*) = \beta_j\,.x^*(\beta_j\,) \tag{2}$$

The optimal reservation value x^* is defined at the point where marginal search cost equals the expected marginal utility. Welfare-enhancing intermediation thus arises when intermediaries generate surplus for both consumers and suppliers by reducing costs and improving information allocation (Spulber, 1999).

Furthermore, intermediaries address key inefficiencies in the insurance market: adverse selection (Akerlof, 1970), moral hazard (Rothschild & Stiglitz, 1976), and product complexity (Cummins & Doherty, 2006). However, intermediation introduces agency costs, particularly regarding the monitoring of intermediary behaviour and ensuring alignment with client interests (Jensen & Meckling, 1976). These costs can be moderated through performance incentives, consumer protection regulation, and transparency (Arrow, 1985; Eling & Kochanski, 2013).

Therefore, the overall advantages of insurance intermediation can be summarised by comparing the transaction and agency costs of intermediary and direct distribution.

$$\left(T_{con}^{i} + T_{ins}^{i}\right) < \left(T_{con}^{d} + T_{ins}^{d}\right) \tag{3}$$

Where T_{con}^{i} refers to contracting costs and $T_{ins}^{i}$to information search costs, under both intermediation (superscript *i*) and direct distribution (superscript *d*). If this inequality holds, intermediation is socially beneficial.

To conclude, the theoretical frameworks presented in this chapter form the basis for evaluating the contribution of insurance intermediaries to market efficiency and consumer welfare. This dissertation builds on these models to empirically explore how intermediary characteristics, firm environments, intermediary performance and client´s characteristic influence service quality outcomes.

1.1 Service quality in insurance intermediation

The quality of service provided by insurance intermediaries is crucial in determining consumer satisfaction, fostering trust in the insurance system and improving the performance of the financial sector (Bruhn, 2013; OECD, 2021). However, insurance advice presents specific measurability challenges that are not present in other financial services. Insurance products are usually categorised as credence goods — services whose quality is difficult to evaluate, even after consumption (Darby & Karni, 1973). Consequently, clients must rely heavily on the intermediary's expertise, ethical standards and communication skills, while lacking the ability to objectively verify whether the advice received truly aligns with their financial needs (Inderst & Ottaviani, 2012; Foerster et al., 2017; Hackethal et al., 2012).

Empirical research has highlighted significant variability in the quality of insurance advice. This variability is often driven by commission-based remuneration systems, misaligned incentives and behavioural biases on the part of intermediaries (Lex & Tennyson, 2021; FCA, 2016). In some cases, intermediaries may inadvertently reinforce clients' misconceptions rather than correcting them, thereby diminishing the added value of financial advice (Mullainathan et al., 2012). Furthermore, the absence of observable counterfactuals — the inability to assess what clients would have chosen in the absence of advice — complicates efforts to evaluate the quality of advice (Chalmers & Reuter, 2020).

From existing literature, we develop definition of service quality as follow: *'The perceived excellence of the technical and relational aspects of the services provided by insurance intermediaries, particularly with respect to financial advice, is paramount. This includes the accuracy, comprehensiveness and suitability of the advice provided, how the intermediary conducts themselves personally, how responsive they are to client needs, and how well services foster trust, meet financial objectives and align with client expectations."*

Furthermore, the professional nature of insurance intermediation influences how service quality is delivered and evaluated. Such services are generally characterised by knowledge-intensive problem solving, client-specific interaction and value co-creation (Greenwood et al., 2005; Løwendahl, 2005). While much of the existing empirical literature focuses on consumer perceptions, this dissertation emphasises the intermediary's perspective — a lesser-explored viewpoint which provides insights into

the determinants of service quality from the provider's perspective, helping to overcome limitations arising from consumer biases.

Ultimately, service quality must be considered within its cultural and institutional context. As Sangeetha and Mahalingam (2011) argue, perceptions of service quality depend on national and sectoral settings and must be measured using context-sensitive tools. This aligns with recent work by Vidani (2024), which highlights the importance of integrated service quality models combining systemic, behavioural and transactional elements, particularly in highly regulated, trust-dependent industries such as insurance.

Dissertation draws on the theoretical contributions of Grönroos (1984), Dabholkar et al. (1996), Brady and Cronin Jr. (2001) and the more work of Pember and Skjølsvik (2012) to develop a robust conceptual framework for service quality in insurance intermediation. The framework examines how service quality is constructed, delivered and perceived, as well as the factors that shape it at intermediary, firm and client levels. This framework provides the basis for the empirical analyses in the subsequent chapters, which evaluate the determinants and consequences of service quality in various insurance contexts.

1.2 Factors influencing service quality

Despite increasing policy and scholarly attention being devoted to the quality of financial advice, academic literature examining the determinants of service quality in insurance intermediation remains limited. There have been few comprehensive studies that have systematically analysed the factors shaping service delivery in this sector. One of the most influential contributions is the methodological model developed by Eckardt (2007), which remains one of the most structured and empirically grounded approaches to date. Nevertheless, research focusing specifically on insurance intermediaries remains sparse beyond this framework. Although the concept of service quality has been extensively explored in related sectors such as banking and investment consulting, the findings from these areas cannot be fully generalised to the insurance sector due to its unique regulatory structures, the long-term nature of its contracts, and the complexity of its risk-based products.

To address this gap, the present study draws on a multidimensional model of service quality, which was originally conceptualised within the field of professional consulting services and developed by Pemer and Skjølsvik (2012). This framework categorises service quality into three main dimensions: resource quality, delivery quality and relational quality. In this dissertation, these dimensions have been adapted for the context of insurance intermediation and operationalised through a set of measurable indicators.

The first group of factors relates to the quality of resources and reflects the professional capacity of the insurance intermediary. These include educational, industry experience, financial literacy, ongoing training, self-confidence and affiliation with a firm. Together, these factors influence clients' perceptions of competence, trustworthiness and the quality of advice provided. List of factors and literature review sources are presented in Table 1.

- *Education* is consistently identified as a key determinant of service quality. Higher educational attainment improves an intermediary's ability to communicate complex product information, thereby enhancing client trust and satisfaction (Eckardt, 2007; Shen & Tang, 2018; Firdas & Amalia, 2024).
- *Financial literacy* is vital, particularly when advising financially fewer literate clients. Strong financial acumen enables intermediaries to reduce information asymmetry and

enhance client decision-making (Kim et al., 2021; Dalkilic & Kirkbesoglu, 2015; Gupta & Kinange, 2016).

- *Continuous learning* is increasingly important amid evolving regulatory requirements, such as those mandated by the EU's Insurance Distribution Directive (IDD). Ongoing training supports technical proficiency and ethical conduct (Armbruester, 2024; C2P Enterprises, 2023).
- *Self-confidence* affects interpersonal communication. While moderate confidence fosters trust and persuasive communication (Anderson & Narus, 1990; Baloria & Bastiaansen, 2024), excessive confidence may hinder responsiveness and reduce service adaptability (Kitces, 2018).
- *Firm affiliation*, particularly independence from insurers, enhances objectivity and broadens the scope of product comparisons, enabling more tailored and client-oriented advice (Trigo-Gamarra, 2008)

Table 1. Intermediary's characteristic factors influencing service quality - review

Adapted Dimension	Factors	Literature Source and Impact
Resource Quality	**Education**	Eckardt et al. (2007) [+]; Jafar et al. (2018) [–/?]; Shen & Tang (2018) [+]; Adhikari (2022) [+]
	Experience	Eckardt & Rathke-Döppner (2010) [+]; Dominique-Ferreira (2018) [+]; Deng & Ma (2022) [+]
	Financial Literacy	Kim et al. (2021) [+]; Dalkilic & Kirkbesoglu (2015) [+]; Gupta & Kinange (2016) [+]
	Training & Learning	Armbruester (2024) [+]; Riggs & Moffett (2018) [?]; Jafar et al. (2018) [–/?]
	Self-confidence	Anderson & Narus (1990) [+]; Kitces (2020) [–/+]; Baloria & Bastiaansen (2024) [+]
	Firm Affiliation	Trigo-Gamarra (2008) [+]; Šemjan et al. (2014) [+]; Kim & Yeo (2024) [+]; Tee et al. (2018) [+]

*Source***:** Own elaboration based on the referenced literature.
Legend:
[+] Positive/significant effect on service quality
[-] Negative or insignificant effect
[?] Mixed or inconclusive evidence

The quality of delivery refers to the professionalism, clarity and effectiveness with which advice is provided. This includes communication style, personalisation, use of digital tools, management of product complexity, and regulatory transparency. List of factors and literature review sources are presented in Table 2.

- *Clarity of communication* is a critical determinant of client understanding and trust. Well-structured, client-centric communication has been shown to increase satisfaction (Howcroft et al., 2003; Sharma & Patterson, 1999). However, overly technical detail may lead to information overload (Bitner et al., 1994).
- *Customisation* of advice enhances the perceived relevance and value of the service (Huang & Lin, 2005; Kanaparthi, 2024), although recent studies caution that superficial or opaque personalisation may reduce its effectiveness (Xu et al., 2023).

- *Digital tools* can enhance efficiency and accessibility (Eling & Lehmann, 2018), but excessive reliance may reduce relational depth and alienate less tech-savvy clients (Eichler & Schwab, 2024).
- *Product complexity* presents a major challenge. Complex insurance terms, when not clearly explained, reduce transparency and perceived service quality (Ulbinaite et al., 2014; Trattner et al., 2019).
- *Transparency and regulatory compliance* improve trust and client empowerment, especially in contexts of high regulatory scrutiny (Ennew & Sekhon, 2007; Eling & Lehmann, 2018).

Table 2. Intermediary's environment factors influencing service quality - review

Adapted Dimension	Factors	Literature Source and Impact
Delivery Quality	**Clarity of Communication**	Howcroft et al. (2003) [+]; Sharma & Patterson (1999) [+]; Bitner et al. (1994) [–]
	Customisation of Advice	Huang & Lin (2005) [+]; Kanaparthi (2024) [+]; Xu et al. (2023) [–]
	Use of Digital Tools	Eling & Lehmann (2018) [+]; Eichler & Schwab (2024) [–]; Hou et al. (2025) [–]
	Product Complexity	Ulbinaite et al. (2014) [–]; Trattner et al. (2019) [–]; Nilsson et al. (2024) [–]
	Transparency & Compliance	Ennew & Sekhon (2007) [+]; Smith et al. (2022) [+]; Björk & Johansson (2021) [+]

*Source***:** Own elaboration based on the referenced literature.
Legend:
[+] Positive/significant effect on service quality
[-] Negative or insignificant effect
[?] Mixed or inconclusive evidence

Relational quality encompasses the interpersonal aspects of advisory interactions. Key components include trust, empathy, transparency, the duration of the relationship, fairness and an absence of prejudice. List of factors and literature review sources are presented in Table 3.

- *Trust* in the intermediary's integrity and competence is a key factor in perceived service quality and satisfaction (Beloucif et al., 2004; Kundu & Datta, 2015).
- *Empathy*, or the ability to understand and respond to clients' emotions, fosters loyalty and enhances long-term engagement (Järvinen et al., 2013; Sherwani et al., 2024).
- Explaining risks, costs and obligations *transparently* reduces uncertainty and strengthens client confidence (Losada-Otálora & Alkire, 2019; Haque et al., 2023).
- Implicit and explicit *biases*, especially those based on gender, can diminish service quality. Discriminatory treatment based on the gender of either the advisor or the client undermines relational fairness (Brands & Fernández-Mateo, 2017; Bhattacharya et al., 2024).

Table 3. Intermediary's ability and bias´s factors influencing service quality – review

Adapted Dimension	Factors	Literature Sources
Relational Quality	**Trust**	Beloucif et al. (2004) [+], Kundu & Datta (2015) [+], Nagami et al. (2024) [+], Chen et al. (2024) [+], Yar et al. (2019) [+], Ludwig et al. (2023) [?], ASIC (2019) [-]
	Empathy	Njoki et al. [+], Järvinen et al. (2013) [+], Raza et al. (2023) [+], Sherwani et al. (2024) [+], Promsri (2005) [-]
	Transparency	Losada-Otálora & Alkire (2019) [+], Mittal et al. (2016) [+], Haque et al. [+], eMoney Advisor (2024) [+]
	Gender Bias	Brands & Fernandez-Mateo (2017) [-], Klein et al. (2021) [-], Bhattacharya et al. (2024) [-], Pinar et al. (2010) [+/-]

*Source***:** Own elaboration based on the referenced literature.
Legend:
[+] Positive/significant effect on service quality
[-] Negative or insignificant effect
[?] Mixed or inconclusive evidence

2. Aim and focus of the dissertation

The dissertation thesis primarily aims to *identify and analyse the main factors influencing the quality of services provided by insurance intermediaries*. The study aims to address the current gap in academic literature by providing a thorough, evidence-based analysis of service quality in insurance intermediation.

To achieve this, the research was structured around three interrelated objectives. First, a robust theoretical framework was developed through a critical review of existing academic literature on service quality and insurance intermediation. This was including a description of conceptual models of service quality, as well as synthesising prior research on the roles, functions and performance of insurance intermediaries. Particular attention was paid to the determinants of service quality identified in the literature on both insurance and the broader financial services sector.

The second objective was to design and implement a methodological instrument for collecting primary data. This involves developing structured questionnaires to capture data on the variables proposed in the conceptual framework. These questionnaires were administered to intermediaries in selected EU countries, including Slovakia. They were designed to measure factors relating to the intermediary's characteristics, their environment, their advisory performance and their clients' attributes. The resulting dataset will enable a comprehensive empirical investigation of the determinants of service quality.

The third and final objective was to empirically evaluate the relationships between the identified factors and the overall quality of services provided by insurance intermediaries. Quantitative analytical methods, including regression analysis, are employed to test the conceptual model and assess the significance and strength of the observed relationships. The findings were used to validate or challenge

the proposed hypotheses, providing evidence-based insights into how service quality in insurance intermediation can be improved.

2.1 Hypotheses

Building on existing literature, this study enhances our understanding of service quality in insurance intermediation by focusing on the advisory process prior to the realisation of service outcomes. Although Eckardt (2007) identified intermediary-related predictors, such as training, time investment, claims handling and the quality of advisory interactions, her framework predates the digital transformation that is currently reshaping insurance distribution.

To address this issue, the present study applies a multidimensional framework adapted from those of Pemer and Skjølsvik (2012) to the context of insurance intermediation. This constitutes a novel contribution, enabling a structured, pre-transactional evaluation of perceived service quality. In line with the study's objectives, four hypotheses are formulated, each reflecting one of the key conceptual dimensions that influence perceived service quality: (1) intermediary characteristics; (2) intermediary firm environment; (3) intermediary performance; and (4) client characteristics.

Hypothesis 1: Intermediary characteristics

In the financial services industry, intermediaries are expected to demonstrate a high level of expertise and professionalism. Characteristics such as financial literacy, ongoing training and self-assurance are consistently associated with the capacity to provide high-quality, personalised advice.

Research confirms that financial literacy improves professional decision-making and client satisfaction (Lusardi & Messy, 2023; Huston, 2010; Chen & Volpe, 1998). Continuous training ensures compliance and up-to-date knowledge, thereby enhancing service accuracy and ethical conduct (Becker, 1964; Zeithaml et al., 1996). Meanwhile, self-confidence facilitates clearer communication and proactive service delivery (Barber & Odean, 2001), though it can also lead to biased or overly assertive recommendations (Gennaioli et al., 2015).

Hypothesis 1: *Higher levels of intermediary financial literacy, training and self-confidence positively influence perceived service quality.*

Hypothesis 2: The environment of the intermediary firm

Service quality is not solely determined by individual capabilities, but also by organisational context. Larger firms often have superior infrastructure, invest more in compliance and training, and are more likely to adopt digital tools, all of which support the consistent delivery of high-quality services (Lee, 2012; Odonikova & Dvoryadkina, 2020).

Digitalisation further enhances service quality by improving efficiency, data accuracy and client engagement (Catlin et al., 2021; Jia, 2024). Similarly, intermediaries who manage larger portfolios gain exposure to a variety of client needs, thereby enhancing their expertise and problem-solving abilities (Zeithaml, 2000; Lovelock & Wirtz, 2016). Intermediaries who oversee acquisition, needs assessment, claims and support in a complex advisory role also contribute to a more holistic and client-centric service (Verbeke et al., 2011).

Hypothesis 2: *Higher levels of digital tool usage, firm size, portfolio size and role complexity have a positive influence on perceived service quality.*

Hypothesis 3: Intermediary performance

Experience and performance pressure have a significant impact on service delivery. As human capital theory suggests, experience improves decision-making and client management (Becker, 1964; Crosby & Stephens, 1987). While moderate performance pressure may motivate intermediaries, excessive pressure can result in rushed or depersonalised advice, thereby reducing service quality (Bakker & Demerouti, 2007).

Client retention is a sign of trust and satisfaction, and is also a consequence of quality service (Berry, 1995). Similarly, a higher contract conclusion rate reflects the intermediary's effectiveness in aligning products with client needs (Heskett et al., 1997). However, service quality may deteriorate when dealing with highly complex products, as clients may struggle to understand them, and intermediaries may face greater compliance burdens (Kahneman, 2011; Honnefelder & Rakic, 2018).

Hypothesis 3: *Higher levels of experience, a higher contract conclusion rate and higher client retention rates positively influence service quality, whereas greater product complexity has a negative influence.*

Hypothesis 4: Client characteristics

Clients' individual characteristics also influence their perception of service quality. For example, financially literate clients tend to evaluate services more critically and expect higher quality standards (Lusardi & Mitchell, 2014). Demographic factors such as age, gender and level of education have also been shown to influence trust, preferences and expectations in financial interactions (Corter & Chen, 2006; Barber & Odean, 2001).

Furthermore, prejudice and gender stereotyping, whether explicit or subtle, may affect the service process. Clients who are perceived as being less competent due to stereotypes may receive oversimplified or less tailored advice (Gennaioli et al., 2015). Implicit biases held by intermediaries can affect the interpersonal dimension of service, altering communication, recommendation strategies, and ultimately perceived service quality.

Hypothesis 4: *Client characteristics, gender, education and length of relationship, significantly influence perceived service quality.*

3. Methodology of work and research methods

Questionnaire 1

The first questionnaire was designed to systematically evaluate the quality of services provided by insurance intermediaries in selected EU countries, paying particular attention to the life and non-life insurance sectors. The core assessment focused on three central dimensions of service quality: intermediary knowledge; the institutional and operational environment in which intermediaries' function; and their performance in client interactions. The countries selected reflected a diversity of insurance intermediation models and qualification systems across the EU.

To ensure empirical robustness and comparability across national contexts, the research employed a vignette-based methodology. Unlike traditional satisfaction surveys or qualitative interviews, which often rely on subjective perceptions, the vignette approach presented hypothetical yet realistic client scenarios. This enabled the assessment of actual decision-making behaviour and professional judgement in a structured and controlled environment. Intermediaries were asked to evaluate specific insurance recommendations in these cases, enabling the quality of advice provided in both simple and complex insurance situations to be measured in a standardised way.

To maximise inclusiveness and response rates in the multilingual EU environment, the questionnaire was translated into the EU's seventeen official languages. These included English, Bulgarian, Czech, Danish, Dutch, Estonian, French, German, Hungarian, Lithuanian, Latvian, Polish, Portuguese, Romanian, Slovak, Slovenian and Swedish. Each translation was thoroughly validated by native speakers with academic backgrounds in economics or finance to ensure accuracy, linguistic clarity and conceptual equivalence across all versions. The survey was hosted on the Qualtrics platform and conducted over a twelve-week period from 16 January to 10 April 2025.

Participating countries were selected based on the presence of a dual-channel intermediation model that distinguishes between insurance agents and brokers as separate categories. This approach improved the generalisability of the results across different institutional settings. Prior to the fieldwork, the research team made contact with 29 insurance intermediary associations at European and national levels. These included the European Federation of Insurance Intermediaries (BIPAR), as well as national-level associations from Austria, Belgium, France, Germany, Slovakia, Bulgaria, the Czech Republic, Denmark, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovenia and Sweden. These associations usually represent professional networks of individual intermediaries and brokerage firms. Many of these bodies agreed to disseminate the questionnaire among their members, thereby facilitating access to a broad and varied professional population.

In addition to collaborating with formal organisations, the we also reached out directly to individual intermediaries. Contact information was gathered from publicly available sources, such as the official websites of insurance firms and advisory organisations. This dual dissemination strategy, combining institutional and individual outreach, aimed to ensure geographical and sectoral representativeness. During the data collection phase client’s financial situation, goals and constraints, after which the intermediaries were asked to rank several insurance product options based on suitability. For example, one case study featured Anna, a 35-year-old business owner who was looking for life insurance to protect her family's financial future. Her goals included protecting her family, paying off her mortgage, and funding her children’s education, all within a limited budget. She was presented with various life insurance policies, including term, whole life and universal life, each with different premiums, benefits and coverage conditions. The intermediaries were asked to evaluate and rank these options according to how well they aligned with the client’s stated goals and constraints.

Questionnaire 2

The second questionnaire, conducted between March and April 2025, focused exclusively on the non-life insurance market in Slovakia. Unlike the earlier pan-European survey, this narrower focus aimed to eliminate potential bias from structural differences between life and non-life insurance. Non-life insurance tends to involve more diverse and transactional client interactions, making it particularly well-suited to studying variations in intermediary behaviour.

The objective was to examine how selected client characteristics — specifically gender, educational attainment, and length of professional relationship — influence product recommendations made by insurance intermediaries. A total of 1,027 intermediaries were invited to participate, and 638 valid responses were received. The intermediaries had diverse backgrounds in terms of region, company size, and experience.

A randomised vignette design was employed, in which each intermediary assessed three hypothetical client scenarios involving a product ranking task. These vignettes systematically varied in terms of client gender (Jozef or Mária), educational attainment (university degree or no degree) and length of professional relationship (new or long-term), while all other information remained constant. This experimental setup enabled causal inferences to be made about the influence of these variables on intermediary decisions.

To measure implicit and explicit bias, the study employed the Blatant and Subtle Prejudice Framework (Pettigrew & Meertens, 1995) alongside a modified iteration of the Modern Sexism Scale (Swim et al., 1995). The survey was pre-tested and piloted with Slovak insurance professionals to ensure clarity and validity.

3.1 Factors influencing service quality

Financial literacy was assessed using four questions adapted from Bongoni et al. (2023) to evaluate basic insurance knowledge. Those scoring above three correct answers were classified as having higher financial literacy (dummy = 1), while those scoring two or fewer were classified as having lower literacy (dummy = 0).

- Training and continuous learning were measured via self-reported monthly time spent on five professional development activities. A dummy variable was constructed based on whether an intermediary's average monthly training time exceeded the sample average (1 = active learner; 0 = inactive learner).
- Self-confidence was assessed using four comparative self-assessment items based on case study scenarios and rated on a 5-point Likert scale. The mean of these ratings served as an ordinal proxy for self-confidence, with higher values indicating greater perceived competence.
- Digital tools usage was measured using a binary response to the question of whether intermediaries used digital advisory tools (e.g. CRM or robo-advisors), coded as 1 (uses tools) or 0 (does not use tools).
- Firm size was based on the number of employees and employment context, resulting in a five-point ordinal scale ranging from self-employed (1) to companies with over 100 employees (5). This served as a proxy for organisational resources.
- Portfolio size was recorded based on the number of clients managed and categorised into five intervals ranging from 1–50 to over 1,000 clients. This formed an ordinal variable to assess workload scale.
- Role complexity was assessed using a framework by Stricker et al. (2023), in which respondents allocated their working time across eight intermediary roles. Dummy variables captured (1) engagement in three or more roles and (2) allocation of 10% or more of working time to any role. These indicators reflect role diversification.
- Experience was measured as a continuous variable based on the total number of years spent working as an intermediary.
- Contract conclusion was operationalised through the conclusion rate index (CRI), which was derived from self-estimated conversion and retention rates. CRI values were dichotomised at a

50% threshold, with values above this threshold indicating successful contract conclusion and values below this threshold indicating unsuccessful contract conclusion.

- Signalling was measured using eight items reflecting signalling behaviours (e.g. credibility and qualifications) which were rated on a 10-point Likert scale. A mean score above the median indicated a high signalling tendency (dummy = 1).
- Gender prejudice was measured using six adapted items from the Modern Sexism Scale (Swim et al., 1995) which were rated on a 10-point Likert scale. The mean score represented the level of gender-based prejudice.
- Education and professional relationship prejudices were assessed using adapted items from the Subtle and Blatant Prejudice Scale (Pettigrew & Meertens, 1995), with responses collected on a 10-point Likert scale. Mean scores reflected biases related to clients' educational levels and the length of the professional relationship.

3.2 Measuring of Service Quality

A vignette-based experimental design was implemented within two structured questionnaires to assess the quality of insurance intermediation services. To ensure heterogeneity and eliminate order bias, insurance intermediaries were randomly assigned diverse case studies covering a range of insurance products, including both basic and complex life and non-life insurance. Each vignette presented a hypothetical client scenario, requiring intermediaries to recommend the most suitable insurance product. Randomisation was applied to both case allocation and product presentation order, enhancing the robustness of the results by mitigating potential order effects.

Following the methodology proposed by D'Astous, Gemmo and Michaud (2022), a Service Quality Index (SQI) was developed by ranking the recommendations of intermediaries based on the expected utility they provided to clients. This ranking was calculated using both Decreasing Relative Risk Aversion (DRRA) and Constant Relative Risk Aversion (CRRA) utility functions, providing a quantitative measure of how closely intermediaries adhered to an 'optimal order' of advice.

Client utility for life insurance products was calculated using the CRRA and DRRA utility functions to capture varying risk preferences more accurately. The general form of these functions is given by:

$$U(W) = \frac{W^{1-\gamma}}{1-\gamma} \tag{4}$$

Where:

- W= Final wealth outcome (e.g., benefit - cost, including cash value)
- γ = Risk aversion coefficient (Anna is moderately risk-averse, let's assume γ=3)
- $U(W)$ = utility derived from this net wealth

The CRRA utility function assumes a constant relative risk aversion coefficient γ, while DRRA allows the coefficient to decrease as wealth increases, reflecting the diminishing marginal disutility of risk.

To improve simplicity and robustness, an alternative method of net benefit was employed to approximate utility rankings for life insurance products based on net benefit calculations.

$$net\ benefit = (death\ benefit\ +\ cash\ value\ -\ premiums\ paid) \tag{5}$$

When evaluating non-life insurance products, the principles of Prospect Theory (Tversky & Kahneman, 1979) were applied with a focus on loss aversion and diminishing sensitivity. The utility function under Prospect Theory, which incorporates these concepts, is defined as follows:

$$U(W) = \begin{cases} W^{0.88} & if\ gain \\ -2.25 * (-W)^{0.88}, & if\ loss \end{cases} \quad (6)$$

- W is the wealth or loss associated with an outcome.

The expected utility (EU) for non-life insurance decisions is computed as:

$$EU = p * U\ (Loss\ after\ Insurance) + (1 - p) * U\ (Wealth - Premium) \quad (7)$$

Where:

- $p = 0.01$ represents the probability of a total loss (1% chance).
- Loss after Insurance is the amount of uncovered loss after insurance is applied.
- Wealth after Premium is the amount of wealth left after the insurance premium is paid.

The Service Quality Index (SQI) ranks intermediary recommendations based on these utility values, enabling the quality of advice to be compared objectively across intermediaries and insurance product types. To evaluate the suitability of insurance products for clients, Kendall's tau (τ), a non-parametric measure of ordinal association, was employed. Kendall´s tau is calculated as follow:

$$\tau = \frac{(C-D)}{\frac{1}{2}n(n-1)} \quad (8)$$

- where n is number of observations

A value of +1 for τ indicates perfect agreement; a value of −1 indicates perfect disagreement; and a value of 0 indicates no association. In our case, intermediaries were expected to rank insurance products based on their usefulness in specific client scenarios. We then compared these rankings with a benchmark, using the tau statistic (τ) to derive an SQI reflecting the degree of alignment.

Three dependent variables were constructed to capture different dimensions of service quality.

- The ' *First Best Advice'*, which considered whether the intermediary selected the optimal product.
- Second, *Kendall Tau Positive*, which indicates whether the correlation between the intermediary's and benchmark rankings was positive.
- The third variable, *Kendall Tau Above 0.6*, indicates strong alignment with the benchmark.

4. Structure of the dissertation

This dissertation is organised into five chapters. The first chapter establishes a theoretical foundation by reviewing existing literature on insurance intermediation. It distinguishes between the two main types of intermediaries — insurance brokers and insurance agents — and defines financial intermediation in the insurance sector. It explores the economic roles of intermediaries, emphasising their contribution to market efficiency, consumer protection and the overall welfare gains derived from intermediary–client exchanges. The latter part of the chapter focuses on the concept of ex ante service quality in financial intermediation, synthesising literature on the factors that influence service quality. These factors will form the basis of the subsequent empirical investigation.

Chapter 2 outlines the main research objectives and derives testable hypotheses based on the theoretical insights and identified empirical gaps in the literature.

Chapter 3 outlines the methodological framework used for the empirical analysis. It provides details of the design and implementation of the research questionnaire, including information on the timing of data collection, the description of the respondent sample and the sampling procedure. It also outlines the design and content of the case studies employed to evaluate service quality in insurance intermediation. The chapter also describes the procedures for calculating consumer utility when selecting life and non-life insurance products, explains how the service quality index was constructed, and presents the strategy used to operationalise service quality. Finally, the chapter provides an overview of the statistical techniques applied, with a particular focus on logistic regression modelling.

Chapter 4 presents the empirical findings. It provides a detailed analysis of service quality outcomes for various insurance products, ranging from basic to complex life and non-life products, and examines the impact of intermediary characteristics, intermediary´s factors, intermediary performance indicators and client-related variables. The chapter provides comparative insights that emphasise the multifaceted nature of service quality in financial intermediation.

The final chapter interprets the empirical findings in light of the theoretical framework and existing research. It considers the implications of the results for the development of theory, intermediary practices and regulatory policies. The chapter concludes with practical recommendations for improving the quality of insurance intermediation, as well as proposing directions for future research in this field.

5. The Results of the work

A comparative analysis of three logistic regression models — first-best advice, Kendall's tau > 0 and Kendall's tau > 0.6 — reveals consistent and divergent predictors of service quality across insurance products.

In the case of basic life insurance, there is a U-shaped relationship between training and service quality: initial training can hinder performance, but positive effects only emerge at higher levels. However, this relationship becomes weaker under stricter evaluative criteria ($\tau > 0.6$). The consistent negative correlation between conclusion rate and service quality suggests a trade-off between sales performance and providing optimal client advice. Experience and self-confidence have unstable effects, losing significance or reversing direction under stricter models. Variables such as gender, digital tool use, role complexity and firm size have no significant impact. The results of Basic life insurance product ‘factors are being presented in Table 4.

Table 4. Overall analysis of factors influencing service quality of Basic life insurance product

Variable	**(1) First best advice** (Basic life insurance)	**(2) Kendall's tau > 0.6** (Basic life insurance)	**(3 Kendall's tau > 0** (Basic life insurance)
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Training	-0.0187	-0.0217	-0.0173
	(0.017)	(0.016)	(0.021)
Training2	0.0005+	0.0005+	0.0004
	(0.000)	(0.000)	(0.000)
Conclusion Rate	-0.1213*	-0.1340*	-0.0660
	(0.058)	(0.054)	(0.070)
Portfolio client	0.0981	0.0838	-0.0406
	(0.086)	(0.076)	(0.077)
Digital tools	-0.0078	0.0284	-0.0316
	(0.165)	(0.171)	(0.149)
Experience	0.0064+	0.0033	-0.0014
	(0.004)	(0.004)	(0.004)
Size of firm	0.0106	0.0113	0.0057
	(0.085)	(0.077)	(0.077)
Financial literacy	0.0527	0.0447	0.0478+
	(0.042)	(0.037)	(0.029)
Role complexity	-0.0413	-0.0668	-0.0712
	(0.054)	(0.062)	(0.059)
Signalling	0.0339	0.0510	-0.0162
	(0.043)	(0.048)	(0.045)
Male	0.0207	0.0530	-0.0122
	(0.060)	(0.046)	(0.067)
University degree	0.2535*	0.1771	0.1652
	(0.123)	(0.150)	(0.109)
Full Time	-0.0207	-0.0152	-0.0542
	(0.057)	(0.060)	(0.071)
Financial literacy × Education	-0.1208*	-0.1000	-0.0690+
	(0.048)	(0.063)	(0.041)
Digital tools × Firm Size	-0.0174	-0.0220	-0.0093
	(0.042)	(0.042)	(0.041)
Portfolio clients × Experience	-0.0123*	-0.0104+	-0.0017
	(0.005)	(0.006)	(0.004)
Self-confidence	0.0506	0.0321	-0.0153
	(0.062)	(0.058)	(0.045)
Constant	0.0189	0.1640	0.2111
	(0.476)	(0.455)	(0.515)
Observations	**4845**	**4845**	**4845**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors are in parentheses. Data are clustered at the Country level.

Source: Author's own elaboration

The first-best model is the most sensitive, with education, conclusion rate and the interaction between training and experience exerting the strongest influence. The Kendall tau > 0.6 model identifies cases of high-quality alignment, resulting in a smaller number of significant predictors.

Overall, the results suggest that, while training and experience help to avoid poor performance, delivering top-tier service requires broader competencies, such as education, financial literacy and contextual expertise. Furthermore, the reduced importance of conclusion rate in the strictest model suggests an imbalance between aggressive sales strategies and high-quality financial intermediation.

In Table 5, results for complex life insurance product are presented. Findings from the regression analysis of complex life insurance products highlight distinct advisory dynamics, reflecting the higher demands of these products. Training exhibits a U-shaped relationship with service quality: only advanced training significantly enhances advisory outcomes. Unlike basic products, the conclusion rate shows no negative impact, indicating that high-performing agents may maintain quality due to superior competence or trust-building.

Digital tools negatively affect matching quality (Kendall's tau > 0), but this effect reverses in large firms, suggesting that adequate infrastructure can enable effective digital personalisation. Experience shows a weak negative trend, possibly due to overreliance on routine in complex cases.

Surprisingly, higher education correlates negatively with service quality unless combined with financial literacy, underscoring the need for applied, not just formal, knowledge. Firm size and portfolio volume also show negative but largely insignificant effects. Notably, self-confidence correlates negatively with high-quality matching (Kendall's tau > 0.6), implying that overconfidence may impair judgement in complex scenarios.

Effective advisory in complex life insurance contexts depends on advanced, integrated expertise and supportive institutional environments, rather than experience or education alone.

The regression analysis of basic non-life insurance products reveals several key determinants of service quality. Training demonstrates a U-shaped relationship with alignment quality, improving outcomes only at advanced levels. However, it does not significantly influence the probability of delivering first-best advice. Table 6 presents summary of factors influencing service quality of basic non- life insurance product.

Digital tools negatively impact moderate alignment (Kendall's tau > 0), though this effect is reversed in larger firms, indicating that digitalisation is more effective when embedded in supportive organisational structures. Interestingly, this interaction is negative in the first-best model, suggesting a trade-off between optimal and moderately suitable advice.

Table 5. Overall analysis of factors influencing service quality of Complex life insurance product

Variable	**(1) First best advice** (Complex life insurance)	**(2) Kendall's tau > 0.6** (Complex life insurance)	**(3 Kendall's tau > 0** (Complex life insurance)
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Training	-0.0344	-0.0448*	-0.0202
	(0.030)	(0.022)	(0.041)
Training2	0.0007	0.0007*	0.0004
	(0.000)	(0.000)	(0.001)
Conclusion Rate	0.0732	-0.0052	0.1006
	(0.075)	(0.075)	(0.099)
Portfolio client	-0.2218	-0.1745	-0.2423
	(0.231)	(0.142)	(0.158)
Digital tools	-0.1180	-0.2916**	-0.0665
	(0.137)	(0.096)	(0.148)
Experience	-0.0030	-0.0265+	0.0032
	(0.011)	(0.016)	(0.015)
Size of firm	-0.0268	-0.1396*	0.0934
	(0.072)	(0.062)	(0.077)
Financial literacy	-0.0588	-0.0531	-0.0509
	(0.045)	(0.039)	(0.054)
Role complexity	-0.0811	-0.0944	-0.0543
	(0.065)	(0.067)	(0.075)
Signalling	-0.0697	-0.0202	0.0126
	(0.043)	(0.032)	(0.093)
Male	0.0017	-0.0437	0.0146
	(0.052)	(0.043)	(0.121)
University degree	-0.4235**	-0.2372*	-0.1836
	(0.134)	(0.105)	(0.173)
Full Time	0.0732	-0.0187	-0.0947
	(0.103)	(0.089)	(0.104)
Financial literacy × Education	0.1720***	0.1116**	0.1019
	(0.050)	(0.038)	(0.068)
Digital tools × Firm size	0.0361	0.0794**	-0.0201
	(0.039)	(0.026)	(0.043)
Clients × Experience	0.0105	0.0102	0.0111
	(0.009)	(0.008)	(0.008)
Self-confidence	0.0135	0.0211	-0.2479*
	(0.059)	(0.089)	(0.114)
Constant	0.5116	2.1115***	-1.0693
	(0.353)	(0.499)	(0.705)
Observation (N)	**4845**	**4845**	**4845**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors are in parentheses. Data are clustered at the Country level.

Source: Author's own elaboration

Table 6. Overall summary - Factors influencing service quality of Basic non-life insurance product

Variable	**(1) First best advice** (Basic non- life insurance)	**(2) Kendall's tau > 0.6** (Basic non-life insurance)	**(3 Kendall's tau > 0** (Basic non - life insurance)
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Training	0.0002	-0.0252*	-0.0396+
	(0.023)	(0.012)	(0.023)
Training2	0.0001	0.0004+	0.0007*
	(0.000)	(0.000)	(0.000)
Conclusion Rate	-0.0007	0.0156	0.0156
	(0.071)	(0.111)	(0.121)
Portfolio client	0.1642	-0.2583+	-0.0322
	(0.118)	(0.149)	(0.142)
Digital tools	0.0439	-0.3061***	-0.1361
	(0.126)	(0.084)	(0.125)
Experience	0.0194	-0.0035	0.0200
	(0.016)	(0.008)	(0.015)
Size of firm	0.1028+	-0.1524**	-0.0474
	(0.061)	(0.048)	(0.057)
Financial literacy	0.0175	-0.0189	-0.0152
	(0.035)	(0.054)	(0.056)
Role complexity	0.0740	-0.0308	-0.0228
	(0.058)	(0.048)	(0.066)
Signalling	0.0493	0.0240	0.0399
	(0.040)	(0.039)	(0.059)
Male	-0.0465	0.0176	0.0071
	(0.040)	(0.059)	(0.059)
University degree	-0.0798	-0.2608**	-0.3110*
	(0.167)	(0.082)	(0.134)
Full Time	-0.0079	-0.0530	-0.1326*
	(0.050)	(0.057)	(0.052)
Financial literacy × Education	-0.0354	0.1001*	0.0983+
	(0.068)	(0.041)	(0.057)
Digital tools × Firm size	-0.0691*	0.0933**	0.0252
	(0.034)	(0.028)	(0.032)
Clients × Experience	-0.0112+	0.0107	-0.0016
	(0.006)	(0.010)	(0.007)
Self-confidence	0.1630*	0.1003	-0.0144
	(0.080)	(0.096)	(0.069)
Constant	-1.1752+	0.7215+	-0.6455
	(0.606)	(0.373)	(0.783)
Observations	**4845**	**4845**	**4845**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors are in parentheses. Data are clustered at the Country level.

Source: Author's own elaboration

Portfolio size shows a marginally negative effect on alignment, and when combined with experience, it lowers the probability of optimal advice—likely due to reliance on standardised approaches. Education alone is negatively associated with alignment, but when paired with financial literacy, it enhances service quality, highlighting the importance of applied expertise.

Firm size positively influences first-best advice, yet reduces moderate alignment—potentially reflecting bureaucratic constraints. Self-confidence is a positive predictor of first-best advice, though not of consistent quality, underscoring its relevance in simpler advisory scenarios.

These findings stress that high-quality service in basic non-life insurance depends on the interplay between individual capabilities and institutional context—particularly the integration of advanced training, digital tools, and practical financial literacy.

Analysing complex non-life insurance products presented in Table 7 reveals the nuanced effects of training, digitalisation and advisor characteristics on service quality. Initially, training lowers quality, particularly in first-best and Kendall's tau > 0 models, likely due to rigid adherence to protocols. However, an inverted U-shaped trend emerges in advanced models, emphasising the importance of practical, experiential learning.

Digital tools generally reduce service quality, particularly when achieving high alignment (Kendall's tau > 0.6). However, their impact varies by firm size: they have a positive impact in larger firms due to better integration and a negative impact in smaller firms where support structures are limited.

Portfolio size has a dual effect: while larger portfolios impair moderate alignment, they demonstrate a positive trend in high-quality matching. This suggests that there is a threshold at which scale supports personalisation, but also limits it.

Formal education is negatively associated with service quality, unless it is complemented by financial literacy. This underscores the importance of applied, domain-specific competence. Firm size has a positive effect on first-best advice, but a negative effect on more nuanced alignment, which may reflect structural limitations on personalised service.

Self-confidence increases the likelihood of receiving first-best advice, but its relevance is limited for more complex alignment, indicating that it is primarily important in straightforward advisory settings.

Providing a high-quality service in complex non-life insurance contexts requires advanced practical training, institutional support and applied knowledge, rather than relying solely on formal education or confidence.

A cross-product comparison of the factors that influence service quality in insurance intermediation shows that product complexity is the main factor that determines the importance and impact of individual, institutional and interactional variables. Training shows a consistent U-shaped pattern across all products, with advanced, practice-based training being particularly important for complex life insurance products. Conversely, sales success (conclusion rate) negatively correlates with service quality in basic life products, but becomes beneficial in non-life contexts. This reflects the differing demands of advisory depth and transactional efficiency.

Table 7. Overall analysis of factors influencing service quality of Complex non-life insurance product

Variable	**(1) First best advice** (Complex non-life insurance)	**(2) Kendall's tau > 0.6** (Complex non-life insurance)	**(3 Kendall's tau > 0** (Complex non-life insurance)
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Training	-0.0243+	-0.0063	-0.0187 (
	(0.014)	(0.013)	0.014)
Training2	0.0004	0.0002	0.0003
	(0.000)	(0.000)	(0.000)
Conclusion Rate	0.0682+	0.1162	0.1648
	(0.037)	(0.091)	(0.101)
Portfolio client	-0.1078	0.0310	-0.1892
	(0.183)	(0.113)	(0.138)
Digital tools	-0.0628	-0.0905	-0.2707*
	(0.105)	(0.130)	(0.137)
Experience	-0.0032	-0.0015 (	-0.0080
	(0.005)	0.005)	(0.005)
Size of firm	-0.0012	-0.0489	-0.1294+
	(0.056)	(0.065)	(0.076)
Financial literacy	0.0413	0.0385	0.0783
	(0.049)	(0.044)	(0.053)
Role complexity	-0.0607	0.0215	-0.0221
	(0.059)	(0.060)	(0.050)
Signalling	-0.0484***	-0.0109	0.0009
	(0.014)	(0.043)	(0.056)
Male	0.0357	0.0360	0.0797
	(0.057)	(0.052)	(0.083)
University degree	0.2673+	0.1116	0.2556
	(0.156)	(0.151)	(0.219)
Full Time	-0.1266**	-0.0868	-0.0601
	(0.049)	(0.065)	(0.078)
Financial literacy × Education	-0.0894	-0.0284	-0.0732
	(0.070)	(0.077)	(0.084)
Digital tools × Firm size	0.0037	0.0276	0.0761
	(0.029)	(0.042)	(0.050)
Clients × Experience	0.0121	0.0047	0.0239**
	(0.009)	(0.007)	(0.009)
Self-confidence	-0.0058	0.1010+	0.2306*
	(0.051)	(0.059)	(0.104)
Constant	0.7252*	-0.1865	-0.5770
	(0.295)	(0.304)	(0.399)
Observations	**4845**	**4845**	**4845**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors are in parentheses. Data are clustered at the Country level.

Source: Author's own elaboration

A cross-product comparison of the factors that influence service quality in insurance intermediation shows that product complexity is the main factor that determines the importance and impact of individual, institutional and interactional variables. Training shows a consistent U-shaped pattern across all products, with advanced, practice-based training being particularly important for complex life insurance products. Conversely, sales success (conclusion rate) negatively correlates with service quality in basic life products, but becomes beneficial in non-life contexts. This reflects the differing demands of advisory depth and transactional efficiency.

Experience and portfolio size have a negative interaction effect in simpler life insurance, suggesting that overload reduces personalisation — an effect that fades in more standardised non-life settings. Digital tools have a neutral effect on basic products, but hinder quality in complex life insurance unless they are integrated within large firms, where institutional support offsets their rigidity.

While formal education alone may reduce service quality in complex contexts, combining it with financial literacy improves outcomes, confirming that applied knowledge is essential. Self-confidence can be beneficial for providing basic life advice, but it may hinder performance in complex settings due to overconfidence. Role complexity has a mildly negative effect across all products.

Service quality is highly context-dependent. Basic products benefit from structured training and confidence-building. Complex life insurance, however, requires deep expertise, cognitive flexibility and systemic support. Non-life insurance, on the other hand, is best served by procedural precision and efficient client management. Tailored interventions, rather than uniform solutions, are key to improving quality across insurance domains.

The impact of client gender on service quality was examined using three logistic regression models with a between-subjects design and "Treatment (Female)" as the key independent variable. These models investigated whether female clients were more or less likely than male clients to receive high-quality advice, as defined by three criteria: (1) receiving first-best advice, (2) a Kendall's tau value greater than zero, and (3) a Kendall's tau value greater than 0.6.

Across all three models, the Treatment (Female) variable consistently had a positive effect, indicating a slight trend towards higher-quality advice for women. In Model 1, this effect was marginally significant (coefficient = 0.2981), suggesting that female clients may be more likely to receive optimal initial recommendations. However, this result did not meet the conventional 5% significance threshold. In Models 2 and 3, which assessed the alignment of recommendations with optimal ordering (Kendall's tau), the effect remained positive but was not statistically significant.

No other covariates, including prejudice (gender), intermediary gender, education, experience or firm size, were found to significantly affect service quality. Therefore, while there is some indication of more favourable treatment for female clients, the results lack statistical robustness and do not provide conclusive evidence of systematic gender bias in service quality.

Table 7. Logistic Regression Models – Gender-Based Treatment in Insurance Advice

Variable	**(1) First best advice**	**(2) Kendall's tau > 0.6**	**(3 Kendall's tau > 0**
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Treatment (Female)	0.2981+ (0.161)	0.1487 (0.161)	0.2390 (0.169)
Prejudice (gender)	0.0493 (0.070)	0.0428 (0.070)	0.0553 (0.073)
Male	0.0855 (0.163)	0.1882 (0.164)	0.1630 (0.173)
University degree	0.0106 (0.168)	-0.0032 (0.169)	-0.0089 (0.177)
Experience	-0.0231 (0.025)	-0.0236 (0.025)	-0.0168 (0.026)
Life Insurance Type	0.2591 (0.193)	-0.0983 (0.192)	0.0065 (0.202)
Firm size	-0.0110 (0.162)	-0.0692 (0.163)	0.0206 (0.171)
Constant	-0.6412 (0.488)	-0.4064 (0.488)	-1.0967* (0.515)
Observations	**638**	**638**	**638**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Standard errors are in parentheses. Data are clustered at the Country level.
Source: Author's own elaboration

The influence of client education on service quality was examined using the *'Treatment (Non-educated)'* variable across three models to assess whether clients without a university degree received inferior advice. The results of all the models (first-best advice, Kendall's tau > 0 and > 0.6) showed that the client's educational background did not have a significant impact on the quality of advice received. The results are being presented in Table 8. This suggests that insurance intermediaries do not systematically discriminate based on educational attainment.

However, intermediary-specific characteristics were found to be more relevant. Notably, experience was negatively associated with first-best advice, possibly reflecting overconfidence or reliance on heuristics. Conversely, specialisation in life insurance significantly improved service quality, underlining the importance of domain-specific expertise. Prejudice, gender and firm size had no significant effect. These findings suggest that service quality is shaped more by intermediary characteristics than client demographics, such as educational attainment.

Table 8. Logistic Regression Models – Educational Level and Insurance Advice

Variable	**(1) First best advice**	**(2) Kendall's tau > 0.6**	**(3 Kendall's tau > 0**
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Treatment (non-educat)	0.0675 (0.163)	0.1784 (0.161)	0.2037 (0.163)
Prejudice (Education)	-0.0258 (0.071)	-0.0852 (0.071)	-0.0925 (0.071)
Male	0.1627 (0.165)	0.0177 (0.163)	-0.1932 (0.165)
University degree	-0.2508 (0.171)	-0.1939 (0.169)	-0.1961 (0.170)
Experience	-0.0501* (0.025)	0.0199 (0.025)	-0.0153 (0.025)
Life Insurance Type	0.4057* (0.193)	0.1787 (0.192)	0.3020 (0.197)
Firm size	-0.1438 (0.163)	0.0242 (0.162)	0.1412 (0.163)
Constant	0.4923 (0.489)	0.3461 (0.485)	0.1675 (0.490)
Observations	**638**	**638**	**638**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
Standard errors are in parentheses. Data are clustered at the Country level.
Source: Author's own elaboration

The effect of the duration of the professional relationship on service quality was analysed using three logistic regression models, with 'Treatment (Short)' as the main independent variable. This variable indicated whether the client-intermediary relationship was short-term. The results demonstrated a consistent and statistically significant negative association between short-term relationships and service quality across all three outcome measures: receipt of first-best advice, alignment of recommendations with client preferences (Kendall's tau > 0) and strong alignment (Kendall's tau > 0.6).

Specifically, short-term relationships were found to significantly reduce the probability of receiving a high-quality service, as indicated by the negative coefficients in Models 1, 2 and 3: –0.4006, –0.4135 and –0.3486, respectively. These findings emphasise the important role of long-term client-intermediary relationships in providing more personalised, preference-aligned financial advice in the insurance sector.

None of the other covariates — prejudice (long-term), gender, university degree, experience, life insurance product type or firm size — exhibited statistically significant effects on service quality in any of the models. This suggests that, within this analytical framework, the duration of the professional relationship is the only consistent and significant predictor of service quality, while other demographic and professional characteristics do not substantially influence outcomes.

Table 9. Logistic Regression Models – Duration of Relationship and Service Quality

Variable	**(1) First best advice**	**(2) Kendall's tau > 0.6**	**(3 Kendall's tau > 0**
	Coef. (b/se)	Coef. (b/se)	Coef. (b/se)
Treatment (Short)	-0.4006*	-0.4135*	-0.3486*
	(0.164)	(0.162)	(0.162)
Prejudice (Long term)	0.0184	0.0142	-0.0273
	(0.108)	(0.106)	(0.106)
Male	-0.0313	-0.1467	-0.0487
	(0.167)	(0.165)	(0.164)
University degree	-0.0848	-0.0337	0.0976
	(0.172)	(0.169)	(0.170)
Experience	-0.0287	0.0166	0.0268
	(0.026)	(0.025)	(0.025)
Life Insurance Type	0.0330	-0.0349	-0.1872
	(0.198)	(0.193)	(0.193)
Firm size	0.1317	0.1151	-0.0744
	(0.166)	(0.163)	(0.163)
Constant	-0.1560	0.3513	0.0248
	(0.672)	(0.663)	(0.661)
Observations	**638**	**638**	**638**

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Standard errors are in parentheses. Data are clustered at the Country level.

Source: Author's own elaboration

6. Conclusion

This dissertation examined the determinants of service quality in insurance intermediation. The focus was on intermediary characteristics, organisational context, performance indicators and client-related factors. An empirical analysis of various insurance product types revealed that service quality stems from the interaction of multiple dimensions, which are influenced by product complexity and contextual conditions.

The findings show that intermediary competence, particularly in terms of financial literacy, advanced training and self-confidence, affects service quality, albeit in a conditional manner. Training had a non-linear effect: only context-specific education improved outcomes. Financial literacy improved service in simpler settings but had a limited impact in complex settings without higher education. Self-confidence promoted assertiveness, but did not necessarily improve client understanding.

The effects of environmental factors were mixed. When used without adequate integration, digital tools were associated with lower service quality, particularly for complex products. Larger firms were better able to mitigate these effects through infrastructural support. However, firm size alone was negatively associated with service quality, likely due to standardisation and reduced client focus.

Performance-related indicators also provided valuable insights. In basic life insurance, a high contract conclusion rate correlated with lower service quality, while in complex products, it showed a

weak positive trend, possibly due to the consultative nature of these services. Contrary to expectation, experience and portfolio size were not consistently linked to higher service quality.

This study provides a comprehensive, empirically grounded framework for understanding service quality in insurance intermediation, emphasising its conditional and context-dependent nature. It also highlights the importance of bespoke training, cautious digital tool integration, and maintaining client-centricity.

The limitations of this study include its cross-sectional design, market-specific focus and the potential for bias in the self-reported and vignette-based data. Future research should incorporate longitudinal methods and client perspectives, as well as examining the role of organisational culture and AI-based advisory tools.

In summary, the quality of insurance intermediation services is multifaceted and shaped by the interplay of personal competence, organisational support and technological tools. Improving it requires an integrated, context-aware approach that aligns professional skills with institutional and digital developments.

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9. Extended abstract in Slovak language

Za každou poistnou zmluvou stojí finančný sprostredkovateľ, ktorého odborné odporúčania môžu významne prispieť k finančnému zabezpečeniu klienta – alebo, naopak, viesť k suboptimálnym rozhodnutiam s negatívnym dopadom na jeho finančnú situáciu. Napriek významu tejto profesie zostáva kvalita sprostredkovateľských služieb v oblasti poistenia zatiaľ nedostatočne preskúmaná, čo vytvára medzeru v existujúcej odbornej literatúre.

Cieľom tejto dizertačnej práce je preto identifikovať kľúčové faktory, ktoré vplývajú na kvalitu služieb poskytovaných poisťovacími sprostredkovateľmi. Práca sa zameriava na štyri skupiny determinantov kvality: individuálne charakteristiky sprostredkovateľa, organizačno-technologické prostredie, výkon sprostredkovateľa a kvalitu a povahu vzťahu medzi klientom a sprostredkovateľom.

Empirické overenie prebiehalo v dvoch kvantitatívnych výskumoch. Prvý výskum realizovaný na vzorke 4 845 sprostredkovateľov v 13 krajinách Európskej únie skúmal predovšetkým charakteristiky sprostredkovateľa (finančná gramotnosť, tréning, sebavedomie), pracovné prostredie (komplexnosť úloh, používanie digitálnych nástrojov, veľkosť firmy a portfólia) a výkonnosť (dĺžka praxe, miera uzatvárania zmlúv, signály kvality). Respondenti boli náhodne priradení k štyrom modelovým prípadovým štúdiám, ktoré reprezentovali rôzne typy poistných produktov (základné a komplexné životné a neživotné poistenie). Druhý výskum, uskutočnený na vzorke 636 sprostredkovateľov pôsobiacich na Slovensku, sa sústredil na vplyv charakteristík klienta (pohlavie, vzdelanie) a dĺžku vzťahu s sprostredkovateľom na kvalitu poradenstva.

Kvalita služieb bola hodnotená na základe vignetových prípadových štúdií, kde sprostredkovatelia odporúčali usporiadanie vhodných poistných produktov od najvýhodnejšieho po najmenej výhodne. Spotrebiteľská užitočnosť odporúčaní sa vyhodnocovala pomocou modelov Decreasing Relative Risk Aversion (DRRA), Constant Relative Risk Aversion (CRRA) a Net Benefit pre životné poistenie, a DRRA, CRRA a očakávanej užitočnosti (Expected Utility) pre neživotné poistenie. Na kvantifikáciu kvality služby bol použitý Kendallov tau, ktorý meral zhodu medzi poradím odporúčaných produktov a vzorovým poradím podľa modelov. Následné regresné analýzy hodnotili vplyv jednotlivých faktorov na kvalitu služieb naprieč kategóriami poistných produktov.

Výsledky potvrdili čiastočný a kontextuálne podmienený vplyv individuálnych charakteristík sprostredkovateľa. Finančná gramotnosť zvyšovala kvalitu najmä pri základných produktoch, pričom pri komplexnejších produktoch sa efekt prejavoval len v kombinácii s vysokoškolským vzdelaním. Vzdelanie samo o sebe v niektorých prípadoch oslabovalo vplyv gramotnosti, čo môže súvisieť s efektom prehnaného sebavedomia. Vzťah medzi absolvovaným tréningom a kvalitou služieb bol nelineárny – vyššia kvalita sa prejavila až po prekročení určitej úrovne tréningu, zatiaľ čo priemerný tréning mohol viesť k zníženiu kvality pravdepodobne kvôli falošnému pocitu odbornosti. Sebavedomie sprostredkovateľa malo selektívne pozitívny vplyv, avšak vo všeobecnosti nepredstavovalo záruku lepšieho prispôsobenia sa potrebám klienta. Efekt týchto faktorov sa výrazne líšil v závislosti od typu poistného produktu a ich vzájomnej interakcie.

Používanie digitálnych nástrojov vykázalo paradoxne konzistentne negatívny vplyv na kvalitu poradenstva, najmä pri komplexných produktoch. Tento zistený efekt vyzýva k prehodnoteniu bežného naratívu o jednoznačných výhodách digitalizácie, keďže automatizácia môže viesť k štandardizovaným a menej personalizovaným odporúčaniam. Veľkosť firmy sprostredkovateľa mala takisto paradoxný efekt – sprostredkovatelia z väčších firiem často poskytovali menej kvalitné poradenstvo, čo môže súvisieť s centralizáciou rozhodovania a tlakom na splnenie predajných cieľov. Väčšie firmy však zároveň efektívnejšie integrovali digitálne nástroje, čo mohlo tento negatívny efekt čiastočne kompenzovať. Veľkosť klientskeho portfólia a komplexnosť role sprostredkovateľa neprejavili konzistentný vplyv, čo naznačuje, že rozšírenie praxe alebo funkcií samo o sebe nezaručuje lepšiu kvalitu poradenstva. Pozitívne signály boli spojené s vyššou kvalitou služieb, najmä pri základných životných produktoch. Naopak, profesionálna skúsenosť a miera uzatvárania zmlúv vykazovali zmiešané efekty – skúsenosť bola negatívne korelovaná s kvalitou, čo podporuje hypotézu o tzv. „pasci skúsenosti“.

Miera uzatvárania zmlúv negatívne súvisela s kvalitou pri základných produktoch, no pri komplexnom životnom poistení mala mierne pozitívny efekt. Tieto zistenia zdôrazňujú význam kontextu a naznačujú, že tradičné výkonnostné ukazovatele nemusia byť univerzálne relevantné pre zlepšenie kvality. Z pohľadu klientskych charakteristík bolo zistené, že pohlavie a úroveň vzdelania nemajú významný alebo konzistentný vplyv na kvalitu poskytovaných služieb, čo je v rozpore s niektorými predchádzajúcimi štúdiami z oblasti finančného poradenstva. Naopak, dĺžka vzťahu medzi klientom a sprostredkovateľom sa ukázala ako silný a významný prediktor kvality – dlhšie trvajúce vzťahy korelovali s lepším a personalizovanejším poradenstvom. Tento výsledok podčiarkuje dôležitosť kontinuity a dôvery vo vzťahoch klient–sprostredkovateľ.

Firmy by preto mali investovať do stratégií podporujúcich stabilitu týchto vzťahov, napríklad prostredníctvom systémov personalizovaného následného kontaktu, vernostných programov či opatrení na zníženie fluktuácie sprostredkovateľov. Celkovo táto práca ponúka komplexný pohľad na determinanty kvality služieb v oblasti poisťovacieho sprostredkovania a zdôrazňuje, že kvalitné poradenstvo vzniká na priečelí technologických možností, ľudských faktorov a inštitucionálneho kontextu. Digitalizácia by mala slúžiť ako podpora personalizácie, nie jej náhrada. Dôležitosť vzťahovej kontinuity a odbornej kompetencie sprostredkovateľa je kľúčová pre zabezpečenie optimálnych finančných výsledkov klientov.