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Determinants of FinTech Payment Services Adoption—An Empirical Study of Lithuanian Businesses

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Abstract

The new era of FinTech services enabled the financial sector to benefit from innovative and cost-effective products via process automation, fostering a foundation for more sustainable business growth. Despite considerable research, the determinants of FinTech services adoption by businesses remain mostly unknown. For the first time, a mixed-method study is realized combining the perspectives of FinTech services providers (experts) and FinTech service users (businesses that use FinTech). To elicit the providers' views, interviews have been conducted with experts from FinTech service providers. From the user side, data generated via online surveys was evaluated in an adjusted Unified Theory of Acceptance and Use of Technology (UTAUT2) model tailored to FinTech specifics using the R implementation of PLS-SEM. The results of this analysis enabled comparisons between the perspectives of providers and users to identify similarities and differences in adoption factors. Correspondingly, conclusions on FinTech adoption encourage FinTech service providers to adjust their solutions to better fit the business requirements. For business owners, they provide valuable insights on how to streamline their financials and foster sustainable growth through efficiency gains.

Keywords: FinTech; determinants; payment services adoption; UTAUT2; Lithuania; mixed-method; SEM

JEL Classification: G15; G21; G23; G30

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1. Introduction

Since the financial crisis, the development of information technology has changed the way financial services are delivered [1]. Song and Appiah-Otoo [2] define FinTech as "the marriage of financial activities and information technology". More broadly, FinTech can be described as a multidisciplinary subject that unites three main areas: finance, innovation management, and technology management [3].

FinTech applications offer solutions for different processes and provide multiple services: mobile payments, money transfers, peer-to-peer lending, and crowdfunding were the initial areas. Later, it expanded into blockchain technology, cryptocurrencies, and robo-investing [4].

The controversy between FinTech and traditional banks arises as early as 1994. Microsoft Chairman Bill Gates said, "Banking is necessary—but banks are not." This claim has pointed out that financial services are not related exclusively to traditional banks and

that there is plenty of space for new shapes of delivering financial services [5]. Looking into the business model of FinTech, several differentiation aspects occur. FinTechs often start as small startups offering specific services, not a wide services portfolio as incumbent banks do.

The entrance of FinTech had an impact on the banking sector, posing both opportunities and risks for the partnerships between FinTech and banks [6]. There are still different opinions and views on whether the new entrants could summarily dispose of the role of traditional banks in the financial sector. According to the majority of recent headlines, traditional banks and FinTechs are increasingly collaborating rather than engaging in intense competition, as both parties recognize that their mutual success outweighs their individual disadvantages [5].

From the beginning of the FinTech era in the US and UK [7], the FinTech adoption dynamics have changed. Countries such as China and India take the leading positions in FinTech adoption, according to the Ernst & Young Global FinTech Adoption Index [8]. The largest and most advanced market for the development and use of FinTech currently is China [9].

Analyzing FinTech adoption from the macro-level view, Huarng and Yu [10] have investigated various attributes on a country level that lead to higher or lower levels of FinTech adoption. In this study, a sample of 30 countries indicates that high adoption of FinTech goes along with high levels of innovation, technology, entrepreneurship, and economic development.

One of the most significant impacts of FinTech emergence is associated with a positive influence on financial inclusion and access [11], i.e., accessibility of financial services, financial services being made available to businesses and individuals, and the affordability of available financial services [12]. Increased financial inclusion was also highlighted in a study by Abbasi et al. [13], who show for a sample of OECD countries that FinTech peer-to-peer lending services allow SMEs better access to finance. These results are similar to the findings of Łasak [14], who confirmed that financial technology is essential for improving the financing of SMEs in developing countries.

However, the extent to which those benefits can be realized highly depends on the usage and application of these products and services. Therefore, to accelerate financial access and inclusion, a thorough understanding of the factors that influence the adoption of FinTech is required [15].

A study by Saiedi et al. [16] found that factors like distrust in traditional banks have driven the adoption of peer-to-peer lending services offered by FinTechs and have created an advantage of using FinTech services in comparison to traditional banks. Holmes and King [17] considered more general reasons behind the evolution of B2B FinTech. They discovered that the four essential areas are the digitalization of financial services, pro-FinTech regulation, changing corporate needs and expectations and realizing the benefits of cooperation and coexistence.

In accordance with Dietz et al. [18], millennials, small enterprises, and the underbanked are the client categories most vulnerable to disruption, and, accordingly, these three groups are particularly sensitive to costs and to the improved customer experience made possible by digital technologies. Thus, they have higher intentions to adopt FinTech services. This can also be seen from studies such as Anand and Mantrala [5], who argue that big traditional banks benefit greatly from having large numbers of loyal customers. However, a growing group of tech-savvy millennials is driving the "FinTech revolution", and the banks must win them back and keep them to retain any chance of survival [5].

The current study contributes to the existing literature in four ways. Only a few studies focus on the business perspective when considering drivers of FinTech adoption.

By combining a supply side (FinTech service provider) with a demand-side (FinTech service user) perspective in a comprehensive framework, this study provides a novel approach previously not considered in the literature. Lithuania, with its relatively small size compared to FinTech leaders like the US and the UK, is comparatively strong in FinTech companies. However, it rarely becomes the focus of scientific studies on the adoption of FinTech technologies, to the individual as well as on the business level. Using the TOPSIS method to quantify the evaluations by industry experts, the study provides initial quantitative results on the priorities of FinTech companies regarding their service design. Finally, considering the statistically strong adjusted Unified Theory of Acceptance and Use of Technology (UTAUT2) model, currently no studies focusing on Lithuania or on other countries exist that make use of this sophisticated framework and apply it in a study on the adoption of FinTech solutions by companies.

To achieve its objective, the second section develops a research framework based on a theoretical and methodological literature review. Based on this framework, the research instruments are developed. Analyzing the collected data from experts and FinTech users, in the third section the results of the proposed mixed-method study are presented in detail. These results are discussed in the fourth section. The fifth section concludes.

2. Materials and Methods

2.1. Literature Review and Theoretical Framework

In the past, various models were used to investigate the adoption of technological innovations in general and FinTech services in particular. With the majority of studies being conducted on individual consumers intention to adopt FinTech services, up to date, a lower number of analyses on a business level have been carried out [19]. Utami et al. [20] who performed a systematic literature review on studies of FinTech adoption, have argued that there is a need for further analysis on organizational behavior.

Despite the limited number of studies performed on a company level, taking the existing sample of conducted studies, it can be seen that the driving factors for FinTech services adoption slightly differ across businesses [21].

The Theory of Reasoned Action (TRA) serves as a basis for a Technology Acceptance Model (TAM). As Mailangkay and Juwono [22] underline, the TAM removes the user subject norms since the TRA model's theoretical and psychometric status is unclear. Rahadian and Thamrin [23] used the original TAM approach to analyze factors affecting small and medium enterprises' use of FinTech lending as an alternative financing source in Indonesia. The TAM was found to be a useful tool for demonstrating the presence of variables that impact the attitudes and intentions of Indonesian SMEs when using FinTech lending. The authors suggest that for future research, the UTAUT2 should be applied to test other factors that might influence MSMEs' decision to adopt FinTech.

Nguyen et al. [24] modified the TAM by incorporating the external factors of reputation, trust, and perceived risk. According to the authors, reputation is a crucial factor in selecting non-bank technology providers and plays a vital role in managing customers doubts or claims towards the new product or service. Trust, together with the perceived risk, is significant for creating and eliminating customers doubts and claims towards the new product or service.

The TAM was also successfully implemented by Kovid et al. [25], who complemented it with the factors of trust and responsiveness, providing a model with even better predicting power. As the authors indicate, the relevant question for FinTech service providers is, what features improve customer perceptions to make FinTech services user-friendly, practical, reliable, and responsive? Contradicting results were received by Hu et al. [26], who studied the adoption of FinTech services and found out that perceived ease of use does not have

a significant impact on customer intentions towards using FinTech services. The authors relate this to the theory of adoption of early-stage technologies and services, which says that at this stage the perceived ease of use does not have an impact on the intention to adopt services since the users have no experience and are unfamiliar with the technology.

A hybrid framework of the TAM framework was also deployed by Nugraha et al. [15]. Drawing on previous research and practitioners recommendations. They merged the TAM (perceived ease of use and perceived usefulness) with the hybrid framework's embedded constructs, such as external issues (government support and financial literacy) and internal issues (user innovativeness and trust). The authors indicate there is a significant role of government support in the FinTech adoption since it is linked to the creation of infrastructure, laws, and regulations that foster the expansion of the FinTech sector and improve network connection development [15]. The additional variable trust, at the same time, is associated with a decrease in fear, which in turn boosts consumer confidence.

Shahzad et al. [27] have also successfully implemented an extended TAM, including trust and user innovativeness in the research design. The study analyzes consumers intentions to start using a loan aggregation platform. The results indicate that for the adoption of such a platform, it is critical to determine how consumers feel about loan aggregator platforms.

Another modified model is implemented by Roh et al. [9] who combine the TRA with the information systems success model (ISSM). The authors in particular consider the role of perceived privacy protection. The study offers a trust-centered integrated model and suggests using the ISSM as a technology-based precedent theory to the consumer behavior-based TRA.

To better understand the factors influencing user adoption and implementation of FinTech technologies in India, Singh and Singh [28] create an extended technology acceptance model (TAM) that incorporates perceived risk, trust, and Innovation Diffusion Theory into the traditional TAM framework.

A breakthrough in technology acceptance theories came with the introduction of the Unified Theory of Acceptance and Use of Technology (UTAUT) by Ventakesh et al. [29] which provides a holistic approach towards the study of technology acceptance [30]. Estimations indicated that the model provides a comparatively better set of determinants than the previously existing and mentioned models. Specifically the UTAUT model proved to explain around 70% of a decision to adopt technology [29]. Later, Venkatesh et al. [31] presented an updated version, the UTAUT2 model, where the variables price value, hedonic motivation, and habits were added. As the authors indicate, the suggested extensions of the UTAUT2 significantly improved the variance explained in behavioral intention and technology use when compared to the original UTAUT.

In the context of FinTech adoption, Ref. [32] combined the UTAUT model and the extended valence framework (EVF). Xie et al. [33] adapted the constructs of the UTAUT model and complemented them with the new constructs perceived value and perceived risk. Another modification of the UTAUT model was realized by Kurniasari et al. [34], who added two controlling variables to the study, namely, national culture as a support of the social influence factor and government policy as a particular aspect of the facilitating conditions. Finally, another important modification of the UTAUT2 model was made by Najib et al. [35], who added the constructs of perceived security and knowledge.

Jafri et al. [36] prepared a systematic literature review on the importance of security and trust in the context of FinTech adoption. This study is valuable since it aims to close some gaps in the previous literature by emphasizing the role of trust and security in this context. The authors see trust and security as dynamic variables that have both direct and indirect impact on FinTech behavioral intention.

Another interesting perspective was addressed by Tomić et al. [37], who modified the UTAUT model to analyze the acceptance of electronic payment systems in Serbia. Along with the fundamental UTAUT model, they consider perceived security, trust, privacy, convertibility, and financial considerations. These unique variables of privacy and convertibility were found to be significant adoption factors. As it was underlined, the inclusion of this variable is relevant for countries that are less developed.

In the study by Kang [38] different FinTech services are analyzed regarding security concerns in specific service areas, such as digital payments. The author argues that there are certain requirements for mobile FinTech payment services to be met. Consumers require the digital payments system to meet the following requirements: convenience, mobile payment infrastructure, compatibility, mobility, simplicity, and security. The role of security is highlighted in the article as it is crucial for building consumer trust.

Chikondi Daka and Phiri [39], who analyzed the adoption of e-banking services using the UTAUT model, have depicted that social influence was not essential to the user's desire to adopt e-banking services. In turn, these authors have found that performance expectancy, which mostly relates to the achievement of gains while using the technology, is the most critical factor for Zambian businesses to opt for FinTech services.

Najib et al. [35] highlight that the price value is a relevant factor for business intentions to adopt FinTech services. The results by Moreira-Santos et al. [40] support that the organizational context, which involves companies' internal cost reductions, has positive and significant effects on FinTech services adoption by SMEs in Portugal.

Consequently, in this study the UTAUT2 model is adopted due to several reasons. First, it incorporates the cost-price perspective, which is a crucial aspect in any business decision. Additionally, the UTAUT2 model, as enhanced by Najib et al. [35] has proven to increase the predictive power of the technology adoption model. These additions are particularly relevant due to the context of the study, financial services.

The implemented constructs and the items used to measure them as well as the abbreviations used are introduced in Table 1 below. The items were adopted from Najib et al. [35] and adjusted to fit the particularities of this study.

Based on the previous discussion and using the abbreviations from Table 1, the theoretical research framework shown in Figure 1 will be implemented in this study.

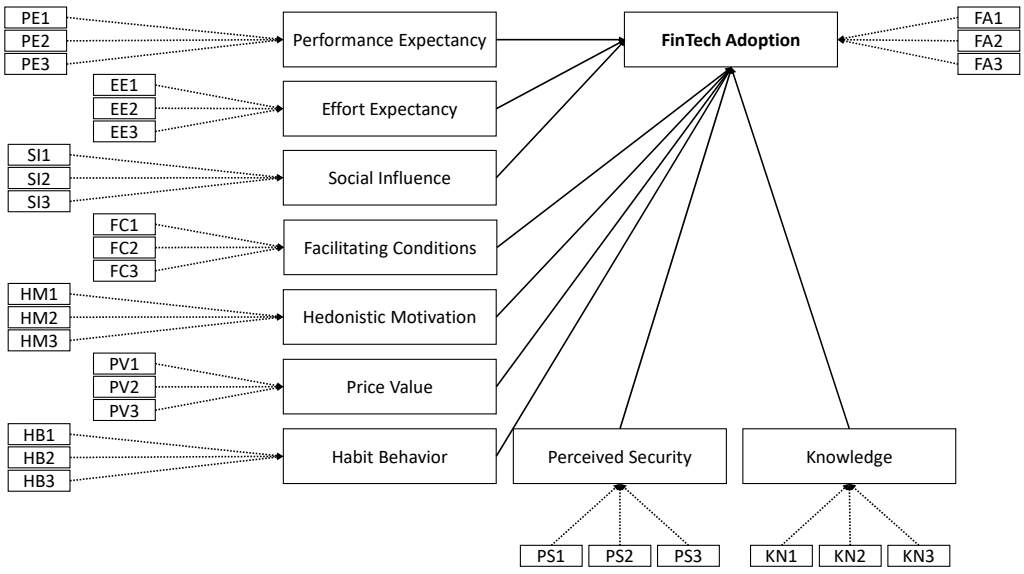

Figure 1. Adopted Research Model—Adjusted UTAUT2 Model.

Table 1. Implemented Constructs.

Construct	Abbreviation	Items
Performance Expectancy	PE	PE1: The service process of FinTech is faster. PE2: FinTech platforms make it easy to make a transaction. PE3: FinTech platforms make it easy to monitor a transaction.
Effort Expectancy	EE	EE1: Learning how to use a FinTech platform is easy. EE2: FinTech platforms are easy and intuitive to use. EE3: Payment procedures are clear and easy to understand.
Social Influence	SI	SI1: People who are important to me think my company must use FinTech. SI2: Using FinTech platforms makes my company look innovative in managing my company's finances. SI3: Using FinTech makes my company look professional in managing its finances.
Facilitating Conditions	FC	FC1: My company has the resources necessary to use a FinTech platform. FC2: FinTech systems are compatible with my company's business model. FC3: My company can get help from platform support staff when we have difficulties.
Hedonic Motivation	HM	HM1: Using FinTech platforms is fun. HM2: I look forward to using FinTech platforms since it is entertaining. HM3: FinTech platforms are the most enjoyable financial service that I use in my business.
Price Value	PV	PV1: The benefits of using FinTech platforms are higher than the costs. PV2: International payment fees are lower compared with other services providers. PV3: Exchange rates are more competitive than other service providers.
Habit Behavior	HB	HB1: Using FinTech platforms to make payments has become a habit to me. HB2: Using FinTech platforms for payments has become a standard procedure in our company. HB3: My company must use FinTech platforms for payments in the future.
Perceived Security	PS	PS1: My company feels secure when transferring funds with FinTech platforms. PS2: My company feels secure providing company information when using FinTech platforms. PS3: My company is not worried that information I provide when using a FinTech platform could be used by other people.
Knowledge	KN	KN1: FinTech international payment products are clear and understandable. KN2: Technical procedures to access a FinTech platform are clear and understandable. KN3: Regulatory requirements to be able to do payments via FinTech are clear and understandable.
FinTech Adoption	FA	FA1: As an existing user of FinTech services, my company is willing to continue using FinTech services. FA2: My company prefers using FinTech services as compared to a payment service provided by traditional banks. FA3: My company will recommend FinTech services to our friends.

The underlying estimated model, can be written as a single equation of the following format:

$$FA = b_0 + b_1PE + b_2EE + b_3SI + b_4FC + b_5HM + b_6PV + b_7HB + b_8PS + b_9KN + \varepsilon \quad (1)$$

2.2. Deduction of Research Hypotheses

The contextual focus of this empirical study is payment services provided by Lithuanian FinTech companies. Payment services are chosen for the analysis considering that compared to other FinTech services, payment services require relatively lower technological Information and Communication Technology (ICT) infrastructure and thus can be analyzed using technology acceptance models like the UTAUT2 [41]. In addition, FinTech payment services are one of the most commonly used FinTech services that have boosted the speed and circulation of financial transactions, generating positive effects for the world economies and their growth [32].

Based on the modified UTAUT2 model presented in the previous section with the nine factors proposed by Najib et al. [35] the following hypotheses result as per each of the nine constructs:

Najib et al. [35] explain that consumers will adopt a technology with the hope that their performance will increase. Prior studies [42,43] have investigated that performance expectancy significantly influences the decision to adopt FinTech services. In the original TAM, performance expectancy has been slightly differently phrased as perceived usefulness, but the main justification of its inclusion into the model remains the same [44]. Based on this, hypothesis H1 is postulated:

H1. Performance expectancy positively influences the adoption of FinTech services.

Effort expectancy refers to how simple it is for a person to use and apply technology [45]. This construct has already been part of the initial TAM framework where it has been referenced as perceived ease of use [44]. Consequently, consumers are more likely to accept a new technology if they believe it to be user-friendly and easy to use, allowing them to quickly adopt it resulting in hypothesis H2:

H2. Effort expectancy positively influences the adoption of FinTech services.

The degree to which a person feels that an organizational and technological infrastructure exists to facilitate the use of the system is referred to as the facilitating conditions which means the availability of resources and support to carry out an activity [42]. In other studies, facilitating conditions can be approximated via constructs like system interactivity, which via the experience of the service, have an impact on its use or purchase [46]. Using this construct, hypothesis H3 is proposed:

H3. Facilitating conditions positively influence the adoption of FinTech services.

The degree to which a person believes that important others think they should use the new technology is known as social influence. According to Cao [47] users of new systems have a tendency to make careful decisions and perform several pre-checks. On a personal level, this is supported by the study of Tan and Leby Lau [48] who within a sample of 347 participants, found that participants are more likely to use mobile banking if a high level of peer pressure and influence from others exists. In studies on purchasing, the same concept is considered but referenced in those cases as social interactivity [46]. Summarizing, hypothesis H4 is proposed:

H4. Social influence positively influences the adoption of FinTech services.

The enjoyment and pleasure the one derives from utilizing a technology, known as hedonic motivation, has been demonstrated to be a key factor in influencing technology acceptance and use [49]. Hedonic motivation is often added as an additional variable into UTAUT models [50] or as an external control [51]. With this addition, the emphasis was switched from extrinsic motivation, which had previously dominated technology adoption studies, towards intrinsic motivation [52]. Hence, hypothesis H5 of this study is as follows:

H5. Hedonic motivation positively influences the adoption of FinTech services.

The tradeoff between the benefits received from using the technology and the cost that comes with the implementation of this technology that consumers face is known as the price value of technology adoption [31]. When the perceived advantages of using any technology outweigh its costs, price value is positive [53], and so would be the perceived usefulness if the notation of the initial TAM is used [44]. Therefore, it is hypothesized that:

H6. Price value positively influences the adoption of FinTech services.

Considering that technological innovations per se include novelties and new functions, the adoption of new technologies requires additional skills and knowledge [35]. Sufficient knowledge of a new technology will enable consumers to easily adopt it and reap its benefits more quickly [53]. In the original TAM, this aspect has been subsumed under the construct of perceived ease of use, whereof it is a premise [44]. With this in mind, the following hypothesis, H7 is proposed:

H7. Knowledge has a positive impact on the adoption of FinTech services.

The amount to which people tend to perform behaviors automatically as a result of learning has been termed habit [54]. Habit behavior is a standard factor of the UTAUT model, as it was argued that it will supplement the theory's emphasis on intentionality as the main mechanism and major determinant of behavior [31]. Following this, hypothesis H8 is postulated:

H8. Habit behavior has a positive impact on the adoption of FinTech services.

Finally, the concept of perceived security differs as per the actual context it is used in, but taking into account the environment of financial technologies, perceived security is regarded as the extent to which the users of services and products think that their transactions are safe in terms of personal information and financial aspects [55]. Ultimately, according to Ryu [56], perceived safety in the transaction system via a FinTech service will have a beneficial impact on adoption. Thus, hypothesis H9 is as follows:

H9. Perceived security has a positive impact on the adoption of FinTech services.

2.3. Methodology

2.3.1. Qualitative Expert Interviews

A structured interview guide was designed to ask FinTech experts to evaluate the factors that influence business decisions to adopt FinTech services. A Multi Criteria Decision Making (MCDM) framework was applied. The experts were asked to rank the factors

deduced from the UTAUT2 model regarding their importance for the adoption of FinTech solutions. The TOPSIS method [57] is used to determine an overall ranking.

Experts within this study are people with extensive practical expertise, measured via their years of experience. A minimum of five years of work experience in the field related to finance, banking, or regulatory organizations is set as a minimum requirement. Academic credentials were considered insofar as experts should ideally hold at least a Bachelor's or Master's degree in finance, technology, or related fields or have published articles on FinTech-related topics. This criterion has been considered facultative. All experts should hold a managerial position at a FinTech company and thus have important roles that shape FinTech adoption and provision, thus giving them a broad outlook on the topic. To provide an international perspective in the study, experienced professionals from both Lithuania and the United Kingdom were engaged in the research.

2.3.2. Quantitative Business Survey

The survey was distributed to business customers of FinTech companies. Comparable to the expert interviews, the survey instrument was constructed by implementing the UTAUT2 theoretical framework for businesses following Najib et al. [35]. Data was collected through five-point Likert scales.

Before the survey, a pretest of the survey with a small test group was performed indicating the suitability of the survey instrument. Data was collected from the period of 2024 October until 2024 November. Following the studies by Kovid et al. [25] and Inder et al. [58], a combination of non-probabilistic convenience and probabilistic random sampling was used. The sample population consisted of clients from a Lithuanian FinTech company. Participants were pre-filtered based on the criteria of using financial technology platforms for at least one year. The company was conveniently selected, while customers were chosen randomly. To reduce any common method bias, questions were partially displayed in random order.

In both the expert interviews and the company-based survey initially informed consent has been collected from the participants.

3. Results

3.1. Results of the Expert Interviews

Interviews have been carried out with 14 experts from Lithuania and the UK. These experts came from various fields within FinTech companies, i.e., information technologies, payment operations, compliance, and business development.

Currently, there are approximately 3200 FinTech companies registered in the UK and 270 in Lithuania. Thus, the sample of experts covers 0.4% of the total population of FinTech companies. The margin of error thus results as 3.31%.

After assessing their credentials, experts were asked to appoint a rank for each of the attributes considered in the UTAUT2-based estimation model, rank 1 being the most important criteria and 9 being the least important. Table 2 summarizes the TOPSIS scores and arranges the constructs in their order of determined relevance.

Table 2. Results TOPSIS Ranking.

Construct/Factor	Rank	TOPSIS Score
Price Value	1	0.9206
Perceived Security	2	0.7274
Performance Expectancy	3	0.5709
Effort Expectancy	4	0.5469
Habit Behavior	5	0.5457
Knowledge	6	0.3842
Hedonic Motivation	7	0.3646
Facilitating Conditions	8	0.3212
Social Influence	9	0.1796

Calculating Kendall's concordance coefficient W = 0.4828 (p-value < 0.001) indicates that only a weak to moderate level of concordance exists among experts. This indicates the heterogeneity of experts' opinions and thereby motivates the need to consider the users' perception and thus the demand side as well. Since the result is highly significant, it can, however, be conjectured that there is sufficient agreement among the experts to proceed with the analysis.

Based on the ranked factors determining FinTech services adoption, the experts have identified the benefit-to-cost ratio as the most important factor. The second place, with a score that is decently smaller than the first place but significantly higher than the following factors, is taken by perceived security. Its high TOPSIS score stresses the relevance that experts put on data security. Thus, services, while fulfilling security expectations, need to be priced affordably. The joined third place is taken by performance expectancy, effort expectancy, and habit behavior, implying that experts share the opinion that services need to provide the advertised services while being easy to use. The least influential factor in adopting FinTech services is social influence, meaning that as per the experts' opinions, businesses do not extensively consider other businesses' and individuals' opinions when deciding to adopt FinTech services. Since this factor is closely followed by the hedonic motivation and facilitating conditions, it further shows that experts agree that FinTech solutions primarily provide utilitarian value to their users and are adopted with a clear purpose in mind.

3.2. Results of the Business Survey

3.2.1. Description of the Sample

A total of 104 responses were gathered from companies that use FinTech solutions in Lithuania. For 2022, the Lithuanian statistical office reported a total of 328,600 companies active in the country. If natural persons are excluded, this number reduces to 113,516, with 83.7% of them reporting less than 10 employees [59]. Assuming that not all of these companies implement FinTech solutions in their processes the drawn sample covers decidedly more than 0.1% of all companies. Even considering all 328,600 companies, the sampling error lies at 9.8% and thus below the critical threshold of 10%.

The median company in the sample reports a turnover of €5.68 million and is 13.21 years old, which according to the EU definition, makes it an established small company. With a share of 48.08%, small companies also make up the majority of the small. It can be noted that no large company replied to the survey invitation. The majority of companies in the sample originate from Vilnius (62.50%), Kaunas (8.65%), or Klaipeda (8.65%) or have offices both in Vilnius and Kaunas (4.81%). Only 15.38% of companies do not originate from these three cities. The sample thus slightly overrepresents Vilnius and underrepresents Kaunas. Since no inherent differences between participants from

the two cities can be detected, critical biases resulting from this overrepresentation are rather unlikely.

Regarding the ten constructs, the descriptives summarized in Table 3 result. They indicate that on average the participants only report for the price value a value that lies above the theoretical mean of 3.5. The construct of hedonic motivation is the one with the lowest average score as well as the lowest standard deviation giving rise to the assumption that participants primarily follow utilitarian, price-oriented motives and not hedonic ones when deciding on adopting FinTech solutions.

Table 3. Construct Descriptives.

Construct	Min.	Max.	Average	Standard Deviation
Performance Expectancy	1	5	3.2532	1.0464
Effort Expectancy	1	5	3.4295	0.8809
Facilitating Conditions	1	5	3.3942	0.9763
Social Influence	1	5	3.4135	0.9715
Hedonic Motivation	1	5	3.1090	0.8223
Price Value	1.3333	5	3.5962	0.9424
Habit Behavior	1	5	3.2564	0.9690
Knowledge	1	5	3.4038	0.9504
Perceived Security	1	5	3.4519	0.8488
FinTech Adoption	1	5	3.4551	0.9406

3.2.2. Empirical Results

To assure suitability of the implemented constructs, reliability and validity have been assessed. The respective statistics are summarized in Table 4 below. Their relevance and functionality as well as their respective critical thresholds can be found in Hair et al. [60].

Table 4. Reliability and Validity Tests.

Construct	Alpha	Composite Reliability	AVE	Discriminant Validity
Performance Expectancy	0.829	0.835	0.619	Realized
Effort Expectancy	0.767	0.822	0.603	Realized
Facilitating Conditions	0.751	0.789	0.573	Realized
Social Influence	0.772	0.845	0.631	Realized
Hedonic Motivation	0.401	-	-	-
Price Value	0.912	0.926	0.715	Realized
Habit Behavior	0.823	0.844	0.625	Realized
Knowledge	0.839	0.853	0.647	Realized
Perceived Security	0.877	0.899	0.686	Realized
FinTech Adoption	0.828	0.833	0.618	Realized

Cronbach's alpha reports scores larger than the critical threshold of 0.7 for all constructs except for the hedonic motivation. While the critical threshold can be lowered for large sample sizes, for reasons of overall model stability, in the further analysis hedonic motivation is omitted. Since the experts also rated the hedonic motivation among the least important determinants, this restriction will only marginally impact the overall outcome. An additional reliability measure, the composite reliability, has been calculated. The construct facilitating conditions reports the lowest score with a value of 0.789. Thus, all constructs lie decidedly over the critical threshold of 0.7.

Using the average variance extracted (AVE) as a measure for convergent validity indicates, since all remaining constructs report values larger than the critical threshold

of 0.5, that all constructs are valid measures. This result is bolstered by assessing the discriminant validity. Following Fornell and Larcker [61] the square root of the AVE scores for every construct is compared to the correlations of the construct with each of the other constructs. The comparison indicates that discriminant validity is realized for all constructs.

Summarizing, after exclusion of the construct for hedonic motivation, the implemented constructs are all reliable and valid measures that can be used in the context of the estimation of a structural equation model.

For the estimation of the model parameters the PLS-SEM implementation of R is used, and significance levels are approximated via bootstrapping. PLS-SEM is especially suitable in cases of small sample sizes where it still generates reliable results [62].

Regarding overall model quality, five indicators are assessed. The RMSEA reports a value of 0.055, and the SRMR reports a value of 0.053. Thus, both indicators are smaller than the critical threshold of 0.08 and indicate an overall good fit. This assessment is strengthened by the CFI = 0.922 and TLI = 0.913 statistics which are both larger than the critical threshold of 0.9. Finally, the adjusted Chi Squared (Chi Squared divided by the degrees of freedom) reports a value of 1.522, which also sets it well below its critical threshold of 2. Thus, the goodness-of-fit of the overall model allows for the generalization of its results beyond the sample. A Harman test indicates no potential common method bias.

Figure 2 below summarizes the results of the SEM estimation, displaying factor loadings for each of the items as well as the coefficients of the model. It can be noted that all factor loadings are larger than 0.65 and all but three are larger than 0.7. The construct of hedonic motivation is displayed to attain consistency; due to reliability and validity issues it has not been considered during estimation, and the lines are grayed out. Significance levels have been marked with asterisks; * 10% level, ** 5% level, *** 1% level.

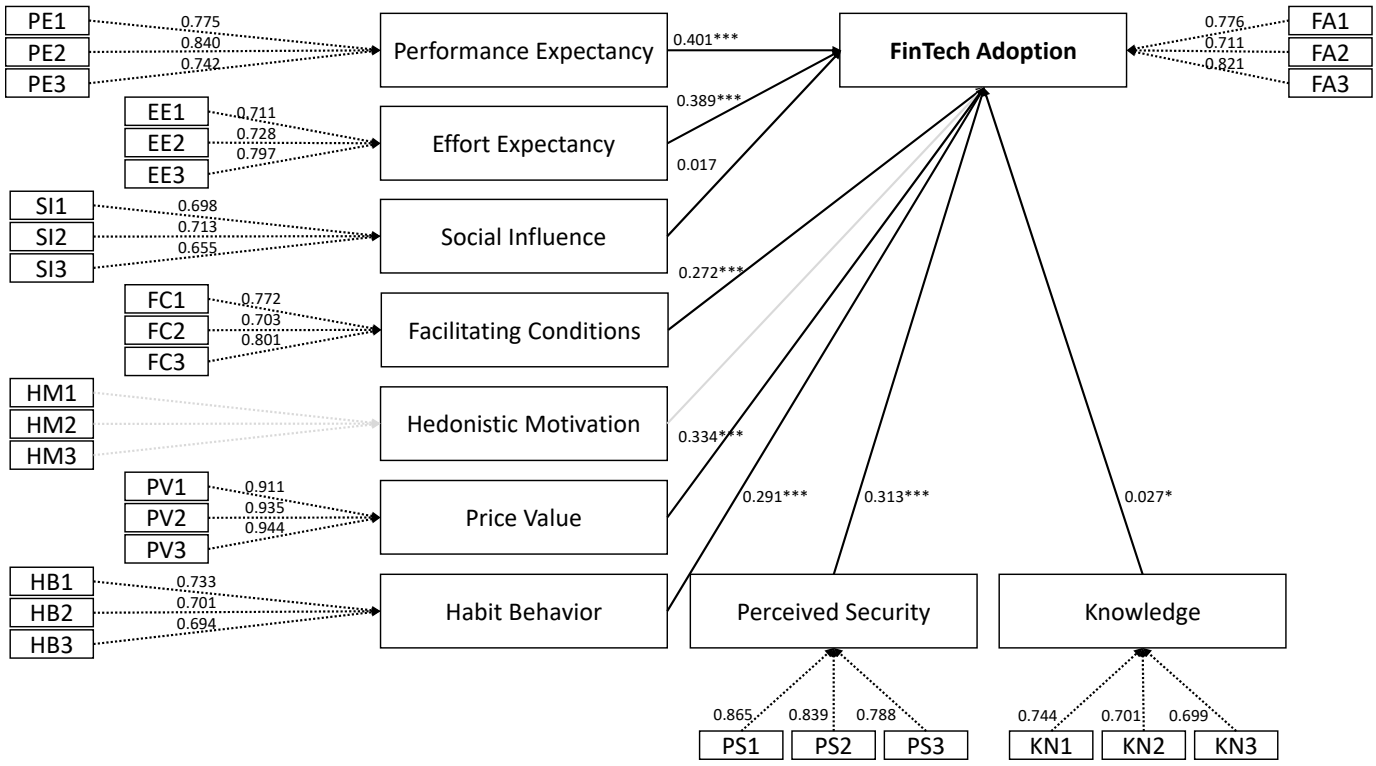

Figure 2. Estimation Results.

Regarding the underlying hypotheses, Table 5 details which of the hypotheses can be accepted and which have to be rejected.

Table 5. Hypotheses Validation.

Hypothesis	Coefficient	*p*-Value	Decision
H1: PE -> FA	0.401	<0.001	Accepted
H2: EE -> FA	0.389	<0.001	Accepted
H3: FC -> FA	0.272	<0.001	Accepted
H4: SI -> FA	0.017	0.117	Rejected
H5: HM -> FA	-	-	No Decision
H6: PV -> FA	0.334	<0.001	Accepted
H7: HB -> FA	0.291	<0.001	Accepted
H8: KN -> FA	0.027	0.094	Accepted
H9: PS -> FA	0.313	<0.001	Accepted

4. Discussion

The discussion follows the proposed hypotheses.

H1. Performance expectancy positively influences the adoption of FinTech services.

The results indicate that FinTech adoption is positively and significantly impacted by performance expectations. This finding implies that the respondents believe that FinTech platforms increase their financial transaction performance which makes it a strong predictor of FinTech adoption. With the highest coefficient, it indicates that performance expectancy adds an important contribution to the constructed model. This result is in line with Jadil et al. [43], Chan et al. [63], and Khechine et al. [42] who found performance expectancy as the key predictor of FinTech usage. Chikondi Daka and Phiri [39] found it to be the main driver of FinTech adoption by Ethiopian businesses. This is also supported by Venkatesh et al. [31] whose study suggests businesses tend to use technology advancements due to the gains related to the efficiency of companies' operations.

H2. Effort expectancy positively influences the adoption of FinTech services.

With a coefficient of 0.389, effort expectancy also has a positive impact on FinTech adoption. This means that Lithuanian businesses are more likely to use FinTech platforms due to their accessibility and ease of use. The second-highest path coefficient highlights the importance of ease of use for prospective users. These results are consistent with the expectation that user-friendly and simple platforms encourage greater adoption rates as already identified by Teshome and Sharma [64] in the analysis of Ethiopian bank customers, where it was argued that if a customer thinks that the usage of a new technology will be simple and easy to use, the chances of adoption will increase significantly. On the other hand, the results contradict with the findings of Hassan et al. [32], who showed no impact of effort expectancy.

H3. Facilitating conditions positively influence the adoption of FinTech services.

With a path coefficient of 0.272, facilitating conditions, which include the availability of needed resources and assistance for using FinTech, have a positive impact on FinTech adoption. According to this finding, Lithuanian businesses are more inclined to adopt FinTech solutions when they have sufficient resources and can get needed support. The influential role of facilitating conditions is consisted with previous studies by Hassan et al., [32] and Yohanes et al. [65] who confirmed that the user will that user will use a new technology that can meet all of their needs and offer solutions for their issues. However, the study on the UK customers by Slade et al. [66] found that facilitating conditions did not have

an impact on mobile payments adoption, which may be explained by the country's mature digital infrastructure, where needed resources are already available, thus diminishing its role in FinTech adoption.

H4. Social influence positively influences the adoption of FinTech services.

With a coefficient of only 0.017 and a *p*-value of 0.117, social influence was found to have only a marginal, non-significant impact on FinTech adoption. Its path coefficient is the lowest among all constructs, indicating its overall irrelevance for businesses. This finding implies that Lithuanian businesses' decision to adopt FinTech services is not influenced by the perceived opinions of others. This result may suggest that internal requirements and perceived benefits are the drivers for FinTech adoption, rather than outside factors such as peer pressure. It is in line with the findings by Chikondi Daka and Phiri [39] who found no impact of social influence on e-banking service usage in Zambia; however, it contradicts with the results of Najib et al. [35] where social influence was found to be a key driver for businesses decisions towards FinTech adoption in Indonesia. The effect can be attributed to two reasons, where in Indonesia, there is a high power culture and a strong influence of social networks and opinion leaders. Lithuanian businesses, on the other hand, work in a more individualistic environment, where decision-making is autonomous. Furthermore, traditional banks still dominate Lithuanian financial services, and thus, there is no critical mass of businesses that could form a substantially influential peer group of companies.

H5. Hedonic motivation positively influences the adoption of FinTech services.

The hedonic motivation component was excluded from the final model due to low factor loadings. Thus, it was not possible to perform any hypothesis testing regarding this factor's association with FinTech adoption. Other studies point to a strong relevance of hedonic motivations when considering individual adoption of financial services like online banking [50]. Research in business and finance [31,67], however, indicates that hedonic factors are not crucial for utility-driven or business-to-business services like FinTech. Generally, this might be attributed to the professional nature of financial services. It may be the case that enjoyment and pleasure are not associated with financial services provision. Thus, it does not directly impact the adoption of technologies, especially in a business context. In their study, Mäenpää et al. [51] indicate hedonic motivation is stronger in younger generations. Since decisions to adopt FinTech solutions for financial payment services most likely are made by leading, i.e., older and more experienced, managers it might explain the observed issues.

As witnessed from the other results, Lithuanian businesses likely see FinTech as a functional tool that optimizes and makes financial operations simpler rather than a tool to be enjoyed.

Finally, it needs to be considered that the present issue occurs due to missing commonality among the chosen items for the scale of hedonic motivations. This scale has been adopted from the literature which, however, focused on individual adoption of FinTech solutions. The results thus might be an indicator that FinTech adoption by individuals and FinTech adoption by companies are inherently different regarding hedonic motivations, and a new scale would have to be developed.

H6. Price value positively influences

With a path coefficient of 0.334, price value has a substantially positive impact. This finding suggests that one of the key considerations for Lithuanian businesses when adopt-

ing FinTech services is how cost-effective they are. It suggests that businesses see the financial advantages of adopting FinTech, such as reduced costs and favorable exchange rates, as strong motivations for the adoption of FinTech. The significance of price value was demonstrated in various contexts as by the studies of Ryu [56] and Chuang et al. [68]. These studies confirmed that when FinTech can offer more competitive prices and rates for its services, businesses perceive them as valuable.

H7. Knowledge has a positive impact on the adoption of FinTech services.

With a path coefficient of only 0.027 and a *p*-value of 0.094, knowledge has only a marginal, statistically insignificant effect on FinTech adoption. Thus, the adoption of FinTech by Lithuanian businesses is not influenced by the understanding of FinTech features. Consequently, businesses may use FinTech without having a thorough understanding of the platform's functionality, since their decision is more influenced by perceived advantages than by extensive technical knowledge. This is in line with the results of Dinh Nguyen et al. [69] who showed that Vietnamese SMEs prioritized financial benefits and support from financial institutions over the knowledge of the technology applications, which only indirectly influenced the perceived security of the FinTech.

H8. Habit behavior has a positive impact on the adoption of FinTech services.

With a coefficient of 0.291, habit behavior was found to have a positive and significant influence on FinTech adoption. This finding indicates that regular use of FinTech products fosters their adoption in the future as a result of users' propensity to remain with FinTech long-term. This finding is closely related to Chuang et al. [68] who likewise detected the significant role of habits in FinTech adoption. Habit behavior was also found as an important FinTech adoption factor among FinTech customers in Oman [70].

H9. Perceived security has a positive impact on the adoption of FinTech services.

A coefficient of 0.313 implies that perceived security has a decidedly strong and significant impact on FinTech adoption. This result highlights that businesses prioritize the safety of their financial information. It supports the idea that for promoting FinTech adoption, secure environments are crucial. Both direct [35] and indirect [9,71] effects of FinTech adoption have been established in previous research as well.

Table 6 summarizes the results from the two parts of the analysis. A Spearman correlation coefficient of 0.7381 ($p = 0.0217$) for the two rankings indicates a strong positive relation between the two opinions. Consequently, there are some disparities between experts and users of FinTech services regarding their assessment of which of the services are the most or least relevant ones; the overall trend, however, is the same.

Comparing these results with those from comparable studies, i.e., in particular, Najib et al. [35], it emerges that the results strongly differ. Table 6 provides a direct comparison with the results of that study. While some aspects are positioned similarly, e.g., price value, facilitating conditions, or the hedonic motivation, when comparing with the expert evaluations, in general a different preference structure emerges. The reasons for these differences result from a differing cultural and business environment. They, however, indicate that the determinants driving the adoption of FinTech on a business level cannot be considered universal across countries.

Table 6. Comparison of Study Results.

Characteristic	Expert Ranking (Supply)	Company Ranking (Demand)	Overall	Najib et al. [35]
Performance Expectancy	3	1	1.5	4
Effort Expectancy	4	2	3.5	9
Facilitating Conditions	8	6	7	6
Social Influence	9	8	8	2
Hedonic Motivation	7	-	-	7
Price Value	1	3	1.5	1
Habit Behavior	5	5	5	8
Knowledge	6	7	6	3
Perceived Security	2	4	3.5	5

The findings demonstrate that Lithuanian business decisions are motivated by practicality, usability, economic benefit, security, and habits rather than social or hedonic factors. These findings align with previous research [72].

Thus, to better reflect the needs of FinTech users and increase adoption, it is recommended that FinTech providers should focus more on improving practical and habitual usage aspects of FinTech services, as these features are most valued by businesses. Moreover, FinTech services should be created with user-friendly features and easy integration possibilities, because effort expectancy and performance expectancy were emphasized by the businesses as key drivers for FinTech adoption. Additionally, there could be more initiatives for education and increasing knowledge about FinTech, which could close the knowledge importance gap and meet the demand of both experts and users. By focusing on these areas, FinTech providers may boost user engagement and create long-lasting habits, which will help to drive higher adoption rates of FinTech.

5. Conclusions

5.1. Practical Recommendations

Both FinTech experts and FinTech users agree on the top 4 factors influencing business decision-making in FinTech adoption. However, they are in a different order of importance. FinTech experts consider price value as the most important driver, while businesses value performance expectancy as the most influential factor.

Potential FinTech services development areas may include enhancing FinTech services promotion by developing its price value, performance expectancy and perceived security components, which, as for both groups of participants the most crucial characteristics for FinTech adoption. Additionally, adoption rates can be enhanced by streamlining processes and enhancing effort expectancy, especially for businesses with little technological knowledge. FinTech providers could focus more on ensuring that FinTech platforms are easy to integrate into daily operations which could enhance their habitual use. The provision of APIs to existing company management systems like SAP is of significant relevance in this regard.

Facilitating conditions, at the same time, should also be given special attention, as it should be guaranteed that companies have access to tools and assistance needed to smoothly adopt FinTech.

Even though the factor knowledge did not score very high, FinTech service providers still should aim to keep businesses up-to-date on their most recent products. They need to offer workshops and courses on their products to keep existing clients in the loop on recent developments of their tools.

According to the research results presented, some insights could help businesses to get the most value from FinTech, stay secure, and be ready for future challenges. In particular, the following practical recommendations for businesses using FinTech services could be determined.

Companies should analyze costs and benefits and compare them with financial services from traditional banking. Ideally, they should pick FinTech services that give good value for their price and are fitting for your company size. These checks need to be repeated regularly to keep up with the companies' dynamic requirements as well as the dynamic landscape of available FinTech solutions.

Considering the strong emphasis both parties put on the aspect of security it needs to be the main priority when shopping for solutions. Only FinTech providers offering strong security options, i.e., data encryption and legal compliance should be considered. In this regard, only providers acting under full transparency should be considered as business partners.

To avoid misuse as well as security breaches, especially unintentional ones, easy, intuitive, and reliable tools have to be selected. Ideally they integrate well with current systems while offering scalability in the future. Employees should be encouraged to use the tools regularly to get comfortable with them.

To make employees confident in the use of the adopted systems, trainings, and workshops have to be realized that make them familiar with the new technologies. At the same time, open communication and deeper understanding of the technologies can reduce reluctance to use these technologies and technological adversity in general. Following standard implementation processes, employee feedback is crucial to evaluate the suitability of the chosen technology.

Finally, the use of FinTech services should be motivated by the objective of solving concrete business problems, not just following industry trends.

5.2. Limitations and Outlook

This study has certain limitations that could have impacted the results. Firstly, the FinTech users perspective was analyzed based on non-probabilistic convenience sampling. The survey was exclusively distributed to the business customers of a Lithuanian FinTech company. Thus, even though the study generates valuable local market insights, it limits the geographical applicability of the findings. Since Lithuanian business culture is rather homogeneous the overrepresentation of Vilnius might not significantly bias the presented results.

However, since Lithuanian business culture is more technology-affine with a strong relation to the FinTech sector, the results of this study might only partially be transferable to more technology-averse societies like Germany. The comparison with the study by Najib et al. [35] in the previous section has shown this. Thus, repeating both parts of the study in other European countries and beyond, while applying the same methodology, might generate relevant critical insights.

Nevertheless, the question of how far the results of the study can be scaled to other countries and how much it is a question of business culture needs to be elicited in further studies.

With the strong interconnectedness of the European financial markets, the question can also be raised of how far positive developments in Lithuania's FinTech sector and the Lithuanian financial market will have spillover effects on the rest of Europe or lead to follow-up multiplier effects abroad.

Considering that the selected company specializes specifically in international payments, the results are more representative of this specific FinTech field, potentially excluding

more general viewpoints on other FinTech areas like lending, insurance, or investment platforms. Thus, future studies could involve the users of one or several FinTechs that provide a more diverse range of services and could involve a more randomized sampling method to reach a more diverse range of FinTech users.

From a theoretical perspective, even though the UTAUT2 provided a substantial foundation for the study, certain variables, such as hedonic motivation or facilitating conditions, exhibited low internal consistency and thus require improvement in future studies. Moreover, the study did not involve factors such as trust, transparency, or characteristics of the CEO of the company, which may provide further significant insights into main adoption factors. Additionally, the comparisons in the context of the discussions have shown that outcomes might significantly differ across different business cultures and sectors. Thus, it seems worthwhile for future studies to consider these aspects within the conception of the underlying research model and repeat the study in differing settings.

While good arguments can be brought forth regarding the infeasibility of the construct of hedonic motivation, a deeper consideration of this issue and the development of a more sophisticated and robust scale to measure it might profit not only this line of research but others besides.

A PLS-SEM approach has been selected to estimate the model parameters since it is particularly suitable for small samples. While it has been argued that the margin of error of both partial studies is within reasonable bounds, a repetition, especially of the quantitative study with more participants might lead to added robustness of the results, increasing its representativeness. It might also allow research to elicit whether there are specific groups with differing behavioral patterns.

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