

Article

Banking Support for Energy Security: The Customer Aspect

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Abstract: Within the increased concern for environmental protection, an important aspect is related to renewable energy not only because of the potential for carbon emission reductions but also because of energy security. Relying on renewable energy sources can be a basis for less dependence of the economy on limited energy sources, especially when considering their potential price fluctuations. The role of banks has already been recognized in the context of supporting the greater use of renewable energy solutions. In this paper, the focus is on green banking (GB) services and customers' intention to adopt them. For its analysis, the theory of planned behavior (TPB) was applied. It was extended with environmental consciousness, as a predictor of attitude and behavioral intention. Moreover, relations between customer intention and its predictors were examined separately for the male and female gender. To the authors' knowledge, this is the first research in which behavioral intention toward green banking services was investigated by including mentioned variables from the gender aspect. According to the obtained results, environmental consciousness, attitude and perceived behavior control have the largest influence on customers' intention. In addition, from the gender aspect, unlike male, the intention of female customers is significantly affected by perceived behavior control.

Keywords: energy security; green banking; theory of planned behavior; environmental consciousness; gender



Citation: Milicevic, N.; Djokic, N.; Mirovic, V.; Djokic, I.; Kalas, B. Banking Support for Energy Security: The Customer Aspect. *Sustainability* **2023**, *15*, 112. <https://doi.org/10.3390/su15010112>

Academic Editor: Michal Borecki

Received: 23 November 2022

Revised: 14 December 2022

Accepted: 17 December 2022

Published: 21 December 2022



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1. Introduction

In the past few decades, climate changes and global warming have led to a constant deterioration of the environment [1]. Issues related to environmental pollution, clean water supply, the degradation of land, and the loss of biodiversity, influence the ecosystem's sustainability and quality [2]. Due to those problems, the importance of environmental preservation significantly increased on both national and international levels [1]. Hence, in Europe and Northern America, environmental protection has been considered one of the most important public agendas, with a focus on people's concerns regarding production and consumption processes [3]. This led to the establishment of different environmental initiatives on a global level. In accordance with the environmental performance ranking, countries are evaluated and classified, whereby the leading ones are given the "Champion of the Earth Award"; there is also the "Global Green Economy Index" and many other similar measures and evaluations [4].

An important aspect of the previously described context is related to renewable energy. Its role is not only in the reduction in carbon emissions but also in the issues of energy self-sufficiency and energy security [5]. Relying on renewable energy sources can be understood as a basis for less dependence of the economy on sources of energy that are limited, especially when considering their potential price fluctuations [5]. It is clearly described within the literature that a great share of fossil fuels within the energy mix of an economy can jeopardize the energy balance and energy security leading to the need for a transition to renewable energy sources [6,7].

The changes arising from greater attention to environmental protection did not bypass the finance industry either. Banks and other financial institutions are expected to implement environmental concerns into their activities and strategies [8]. In this regard, the United Nations Environment Programme Finance Initiative (UNEP FI) “seeks to encourage better implementation of sustainability principles at all levels of operations in financial institutions, namely through the incorporation of environmental, social, and governance factors in risk analyses” [9] (p. 40). In addition to their “internal” operations (for example, air conditioning, lighting, the use of computers, printers and other IT equipment, etc.), banks could impact the environment through their “external”, i.e., customer activities related to offering different products and services—the banking sector can have an important function in financing green and pollution-reducing projects, taking the mediating role between economic development and environmental protection [10]. Besides environmental benefits reflected in the promotion of awareness about environmental and social responsibility among customers, energy, and material savings [11], and the reduction in carbon footprints [12], green banking practices can provide certain benefits to bankers and their customers as well. From a bank’s perspective, benefits may refer to cost reduction, the improvement of customer service, market expansion, and an increase in the bank’s competitiveness [11,12]. On the other hand, customers who follow newer delivery channels that promote paperless work (such as e-banking, automatic payments, and Point of Sale) [1] can save their time and money [11]. With those benefits, green banking can provide significant help in achieving the sustainable economic development of the country [12].

When applying a narrower focus, concretely solely to the issues of energy security, banks are clearly identified as relevant subjects for resolving related issues [5]. Their activities can include not only allowing better credit conditions for related projects, but also creating innovative financial products, as well as the possibility to group several smaller projects together to make them more market attractive, or supporting the rise of the market through sharing information about the benefits of renewable energy [5].

Taking into account that under the influence of rising environmental awareness, the consumption of green products and services has been gaining momentum [13], and the increasing importance of green- and climate-related themes in the banking sector [14], customers’ perspective of green banking should not be neglected either. By examining their point of view, important insights related to the adoption of green banking services could be obtained, which later could be used in decision-making processes. With a better knowledge of customer behavior regarding green banking, banks can undertake more effective activities in order to promote and adjust their GB products and services. Therefore, in this paper, the attention was dedicated to behavioral intention toward green banking services. The analysis was based on the application of the theory of planned behavior, including environmental consciousness as a predictor of attitude and behavioral intention. In addition, certain relations within the model were examined from a gender perspective. Therefore, the subject of this paper is the choice of green banking services in the context of socio-psychological determinants and from the gender aspect. The authors start from the assumption that intention toward GB can be explained by respondents’ attitudes, subjective norms, perceived behavioral control, and environmental consciousness. In addition, it is assumed that gender moderates those relationships, as well as that there is an influence of environmental consciousness on attitudes. The contribution and originality of the research are manifested in the use of all the listed variables in a single model. According to the authors’ knowledge, it was not performed in scientific literature before. In addition, the contribution of the research can be observed from the aspect of the territory where it is conducted since similar research is relatively scarce. The goals of the research go beyond examining the relationships of variables within the model and are also related to managerial implications considering GB. It is also attempted to offer certain policy implications. The structure of the paper is as follows. It starts with the literature review in which the concept of green banking, the theory of planned behavior, and hypotheses were presented. The structure of the paper also includes the methodology section (materials and methods)

where are provided details about the instrument used within the research, the sample of respondents, as well as statistical procedures implemented during data analysis. The next section of the paper deals with the obtained results from measurement and structural models. Finally, discussion (in which the results are compared to the results from other research) and conclusions (where in addition to the main findings and research contribution are also presented implications arising from the obtained results and recommendations for future research) are provided.

2. Literature Review

2.1. Green Banking

Lately, the word “Green” has become very popular; as a “buzzword” it was linked to different activities, such as manufacturing and banking, all with the aim of pointing to the establishment of sustainable processes [1]. The idea of green banking dates back to 1980, and is related to “Triodos Bank”, the Dutch bank that formed a “Green Fund” intended for environmental projects; in coming years, it served as an example for other banks to implement green policies [4]. In the United States, the green bank movement was led by state governments, with Connecticut’s Clean Energy Finance and Investment Authority (CEFIA) founded in 2011 and the New York Green Bank (NYGB) established in 2013 [15] (p. 199). Later, in 2018, the American Green Bank Consortium was created as a project of the Coalition for Green Capital (CGC); it was established as a membership organization that enables the joint work of different clean energy supporters, such as green banks, developers, and capital providers [16]. According to its U. S. annual report, investment in clean energy was at a record level in 2020—“green banks caused \$1.69 billion in total investment, pushing green bank total investment caused to \$7 billion since 2011” [17] (p. 2). In Europe, the role of green banks may be important for the implementation of the European Green Deal (EGD). The aim of this project, launched by the European Commission (EC), is to make the European Union society and economy carbon neutral by 2050 [18]. The importance of financial institutions and the financial market in using green energy was emphasized in the research of Alsaleh and Abdul-Rahim [19]. They analyzed financial development in the context of bio-energy, which, in addition to ecological effects, may also provide socio-economic benefits to European Union countries. The results of their study have shown that financial institutions and financial market indicators had positive effects on bio-energy consumption for the European Union region, whereby a negative significant relationship was found between bio-energy consumption and the emission of CO₂. It is also important to point out the role of global competitiveness determinants that positively influenced, not only the growth of the bio-energy industry in the European Union [20], but the hydropower production as well [21]. Hereby, while the former was significantly affected by human capital, innovation ecosystem, GDP, and enabling environment, the latter was significantly affected by enabling environment, human capital, markets, innovation ecosystem, and economic growth. Financial institutions (banks) and competitiveness determinants should also be considered in the Republic of Serbia in which there is a focus on the energy system to be able to provide safe and continuous access to energy resources and perform that at sustainable prices while attempting to fulfill the principles of a healthy environment [22].

As an evolving concept [4], green banking has been drawing the attention of many researchers. In a significant number of explanations, it was related to sustainability and/or the environment; the scientometric analysis of literature on green banking [23] has shown that, besides GB, the key interests of researchers were sustainable development and the environment. Thus, for Alam et al. [24] green banking represents a new form of banking, which is focused on sustainable development and the protection of the environment. The main principle of the GB concept is related to encouraging banks in supporting environmentally friendly policies and activities, including energy efficiency, green transportation, eco-tourism, etc. [25,26]. Uddin and Ahmmed [27] see green banking as an integral part of Islamic banking that has a basic role in environmental protection. According to Bihari [28], green banking involves the promotion of social and environmental responsibility, in line

with the provision of excellent banking services. As stated by Bose et al. [29], “GB requires a primary focus on environmental sustainability both in internal operations and in its role of influencing clients towards sustainability” (p. 163).

Bearing in mind that when it comes to internal operations, the environmental impact of banks (the use of paper, water and electricity) is relatively low [30], much more attention should be dedicated to the external impact associated with their customer activities [30,31]. There are several products and services included in green banking, such as green loans, green mortgages, green checking accounts, green savings accounts, green money markets accounts, online banking, mobile banking, etc. [32]. Through the provision of loans for environmentally friendly initiatives, green banking mitigates the negative effects on the environment [12]. Banks can offer special credit lines and mutual funds for investing in energy-efficient household products and equipment, as well as in various green projects and companies; moreover, in cooperation with environmental charities, they can offer their customers co-branded credit cards [9].

In order to increase the efficiency and the placement of those green arrangements, the demand side needs to be examined. Therefore, in certain studies, the green banking concept was investigated from the aspect of the banks’ customers. Ibe-enwo et al. [33] explored the relationship between green banking practice and bank loyalty, including mediating roles of green image and bank trust. Solekah [34] also analyzed green banking in relation to loyalty, where besides green banking products and green customer loyalty, the research included green customer satisfaction and green corporate image. In a number of studies, the attention was dedicated to customers’ intention toward green banking [35–38]. Hereby, among various proposals and approaches, there is a study in which behavioral intention toward environmentally sustainable banking services was investigated in the context of the theory of planned behavior [38].

2.2. Theory of Planned Behavior

The theory of planned behavior was developed as an extension of the theory of reasoned action by Icek Ajzen [39]. TPB has been used successfully in examining customer intention and/or behavior concerning numerous products and services, and after years of application it “stood out as an effective framework for guiding the design of a behavior-change intervention” [40] (p. 323). The central factor in this theory refers to the individual’s intention to engage in a given behavior, which, as a general rule, is positively correlated with the possibility of its performance [39]. In accordance with the TPB, there are three main predictors of behavioral intention: attitude, subjective norms, and perceived behavioral control—attitude relates to the degree of a person’s evaluation (unfavorable or favorable) toward certain behavior; subjective norm relates to the social pressure perceived by a person in regard to the behavior; perceived behavior control relates to the degree of a person’s perception regarding the ease or difficulty of performing the given behavior [39].

Among numerous services, the TPB was also applied for analyzing those banking aspects and services associated with green banking, such as sustainable banking, electronic banking, and Islamic banking.

Customers’ intentions regarding environmentally sustainable banking services have been investigated by Taneja and Ali [38]. Besides behavioral intention and TPB predictors (attitude, perceived behavioral control, and subjective norms), their model consisted of three more variables, environmental consciousness, perceived behavior outcomes, and trust. Hereby, positive and significant effects on behavioral intention have been detected in the case of all three TPB predictors, as well as in the case of perceived environmental outcomes.

Approaches based on TBP theory have been applied in the context of internet banking. Yadav et al. [41] combined this theory and the technology acceptance model, with the addition of perceived risk. In accordance with their results, four variables (attitude, perceived behavioral control, subjective norm, and perceived usefulness) had positive effects on customers’ intention to use internet banking. Shih and Fang [42] compared two versions of the TPB model (pure and decomposed) to the theory of reasoned action to

examine customer intention and usage of internet banking. When it comes to the main TPB predictors, attitude positively and significantly affected customer intention in both TPB models, while perceived behavioral control had a positive and significant influence on intention only in decomposed TPB model; the influence of subjective norms was not significant either in the pure or decomposed TPB model.

Glavee-Geo et al. [43] and Giovanis et al. [44] relied on the TPB approach when analyzing customer intention to adopt mobile banking services. Among the others, the results of the former research indicated that m-banking service intention was significantly and positively affected by attitude and perceived behavioral control. On the other hand, the research of Giovanis et al. [44], which included four theoretical models, showed that in the case of the theory of planned behavior three main TPB predictors (attitude, subjective norms, and perceived behavioral control) had a positive and statistically significant influence on customers' intention toward mobile banking services, while the impact of perceived risk was also significant, but negative.

The theory of planned behavior was implemented in the study of Alzadjal et al. [45], who examined customer intention to deal with Islamic banks; following their findings, attitude, subjective norms, and perceived behavioral control were detected as significant predictors of that intention. Similar research was conducted by Han [46], whereby the intention to adopt Islamic banking was also positively and significantly affected by attitude, subjective norms, and perceived behavioral control.

In regard to banking services, the theory of planned behavior was applied to investigating customers' intentions concerning different age groups; the TPB framework was used as a basis for investigating the banking intentions of students [47], as well as the intentions and behavior of the elderly people regarding internet banking [48].

In addition to banking services, the theory of planned behavior has been used in numerous studies related to customers' behavior toward green products and services. Liobikienė et al. [49] applied the TPB approach in evaluating the main determinants of green purchase behavior covering almost all European Union countries, with subjective norms being identified as the most influential factor. In its original form or with some modifications and/or combinations with other approaches and variables, the theory of planned behavior was implemented in analyzing behavioral intention and/or adoption of certain green product categories, including household appliances [50–52], vehicles [53], personal care products [54] and clothing [51,55]. When it comes to green services, besides already mentioned sustainable banking services [38], the TPB approach was used in studies related to green hotels [56], green restaurants [57], and green travel [58]. Moreover, the theory of planned behavior was applied in studies concerning students' green purchase intention and/or behavior [59–62].

2.3. Conceptual Framework and Hypotheses Development

As in previously cited studies, our research also relies on the application of the theory of planned behavior. Hereby, the emphasis was on the relationships between attitude, subjective norms, and perceived behavior control, on one side, and the behavioral intention toward green banking services, on the other. Following similar research and the general rule according to which “the more favorable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior under consideration” [39] (p. 188), we set three hypotheses from the aspect of the theory of planned behavior.

Starting from the results of similar research when it comes to the influence of attitudes [38,41–47], the first hypothesis is formulated as follows:

H₁. *There is a positive and significant relationship between attitude and behavioral intention toward green banking services.*

Having in mind the results regarding the influence of subjective norms from similar research [38,41,44–47], the second hypothesis is defined in the following manner:

H₂. *There is a positive and significant relationship between perceived behavioral control and behavioral intention toward green banking services.*

Finally, after considering the results regarding the influence of perceived behavioral control on behavioral intention in similar research [38,41–47], the third hypothesis is defined as follows:

H₃. *There is a positive and significant relationship between subjective norms and behavioral intention toward green banking services.*

In several studies, customers' behavioral intention was examined in relation to environmental consciousness, which may refer to "one's concerns about environmental issues" [63] (p. 815). Dang et al. [64] pointed to the positive effect of this variable on the purchase intention of organic drinking products. In the research of Li et al. [63], environmental consciousness was positively and significantly related to green purchase intention. In the case of sustainable banking services, Taneja and Ali [38], among others, analyzed the effect of environmental consciousness on behavioral intention and attitude; although no direct significant relation between environmental consciousness and behavioral intention was confirmed, environmental consciousness significantly and positively influenced the attitude towards sustainable banking services. Similar results were obtained in the research of Mishal et al. [65], who also found no significant influence of environmental consciousness on green purchase intention, while it had a positive and significant influence on green purchase attitude.

Taking into account those relations, in this research, we added environmental consciousness as a predictor of attitude and behavioral intention toward green banking services. Specifically, when it comes to the relationship between environmental consciousness and attitude, based on previous research [38,65], we formulated the hypothesis as follows:

H₄. *There is a positive and significant relationship between environmental consciousness and attitude.*

As for the relationship between environmental consciousness and behavioral intention, starting from previous research [63,64], the following hypothesis was formulated:

H₅. *There is a positive and significant relationship between environmental consciousness and behavioral intention toward green banking services.*

Some analyses of customers' intention include gender as a moderator variable. Its moderating role was examined in studies associated with behavioral intention and/or usage of certain banking services [66–70]. The existence of gender differences in the adoption of those services was tested in the model based on the theory of planned behavior [43]. Gender was also used as a moderator in research related to green purchasing intention, where many of them relied on the TPB approach [50,62,71,72]. Their results differed from one in which no moderating effects of gender were detected [71] to those in which at least one relationship between TPB predictors and behavioral intention was moderated by gender [51,62,72]. Additionally, the moderating effect of gender was also found between environmental corporate social responsibility initiatives and green purchase intention [72].

This research also included gender, whereby relationships between behavioral intention toward green banking services and its predictors have been analyzed separately for males and females. Therefore, the following hypothesis was defined:

H₆. *Gender significantly moderates the relationships between behavioral intention toward green banking services and its predictors (environmental consciousness, attitude, subjective norms, and perceived behavior control).*

In accordance with the aforementioned research, our conceptual framework (Figure 1) included six variables: behavioral intention, attitude, perceived behavioral control, subjective norms, environmental consciousness, and gender.

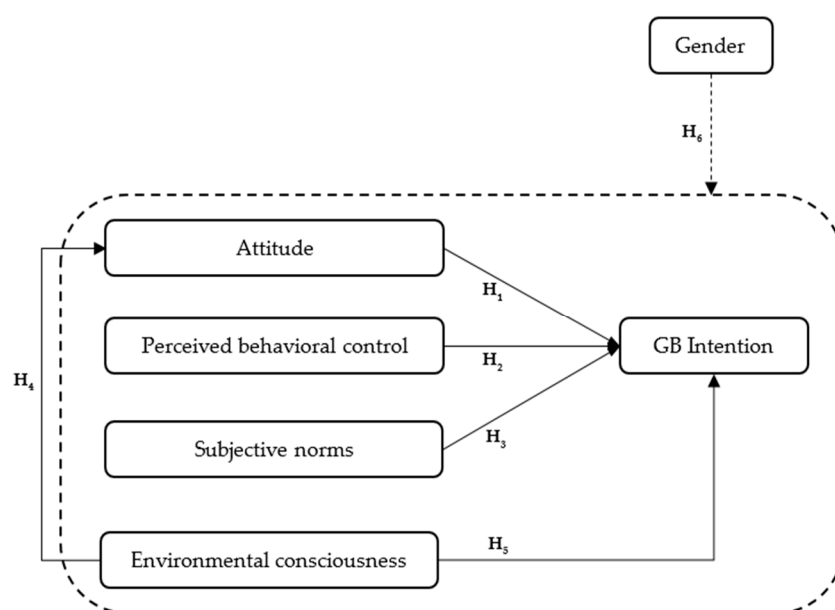


Figure 1. Conceptual framework.

3. Materials and Methods

In the research, conducted in 2022, the convenience sample was used. It included 733 respondents from the Serbian northern Autonomous Province of Vojvodina, who, on average were more than 34 years old. The geographic choice of the sample was determined by the coverage of the project to which this research belongs and its financing by the Autonomous Province. Following similar research [73], according to which there are significant differences among age groups, the composition of the sample can be described through the presence of three age groups: respondents who are between 18 and 24 years old—34.8%; between 25 and 34 years old—30.2%, and finally, 35 years old and older—35.1%. In terms of gender, female accounted for about 65%.

When considering the sample size, we followed Hair et al. [74] who presented the approach based on the minimum R^2 value. In this regard, for achieving the R^2 value of 0.25 in the case of GB intention (predicted by four variables), for a significance level of 5%, the minimum sample size should be 41. Besides being larger than this threshold, our sample also exceeds the “10 times rule”, according to which “the minimum sample size should be 10 times the maximum number of arrowheads pointing at a latent variable anywhere in the PLS path model” [74] (p. 47), which is 40.

The statistical model consisted of five reflective constructs (Figure 2), whereby the relations between dependent variable (behavioral intention) and its predictors (environmental consciousness, attitude, perceived behavioral control, and subjective norms) were examined from the aspect of gender.

For measuring four constructs attitude (AT1-AT3), perceived behavioral control (PBC1-PBC4), subjective norms (SN1-SN3), and behavioral intention (BI1-BI4)) we used a questionnaire that relied on the items proposed by Taneja and Ali [38], while in the case of environmental consciousness (EC1-EC4), we followed Costa et al. [75]. In the case of attitudes, three items were used: “It is a good idea to use green banking services” (AT1), “It is desirable to use green banking services” (AT2), and “I like the idea of using green banking services” (AT3). For measuring perceived behavioral control, we relied on the following items: “Using green banking services is completely up to me” (PBC1), “I have all the necessary resources to use green banking services” (PBC2), “I have the required knowledge to use green banking services” (PBC3), and “I am confident that if I want to, I can use green banking services” (PBC4). When it comes to subjective norms, three items were used: “People who influence my behavior think that I should use green banking services” (SN1), “People who are important to me think that I should use green banking

services" (SN2), and "Promotions by banks can affect my usage of green banking services" (SN3). In order to measure behavioral intention, four items were used: "I intend to use green banking services" (BI1), "I predict I would use green banking services in future" (BI2), "I plan to use green banking services in future" (BI3), and "I would patronize and recommend the use green banking services to others" (BI4). Finally, for measuring environmental consciousness, we used the following items: "The balance in nature is very delicate and can be easily disturbed" (EC1), "When human beings interfere with nature, it often has disastrous consequences" (EC2), "Human beings must live in harmony with nature so that they can survive better" (EC3), and "Humanity is seriously abusing the environment" (EC4). All those items have been evaluated on a five-point Likert scale (from "strongly disagree" to "strongly agree"). The questionnaire also included demographic characteristics, such as gender and age.

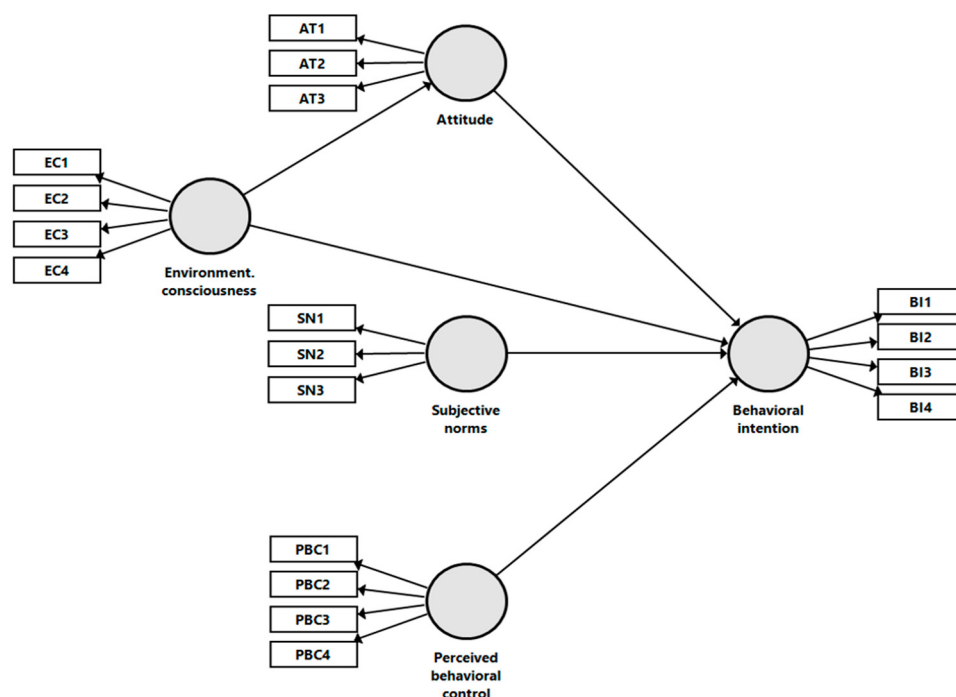


Figure 2. Statistical model—behavioral intention toward green banking.

Relations within the model were analyzed with the application of structural equation modelling (SEM). SEM can be considered one of "the most useful advanced statistical analysis techniques that have emerged in the social sciences in recent decades" [74] (p. 18). As a class of multivariate techniques, it represents a combination of regression and factor analysis, which allows researchers to simultaneously assess measurement and structural theory, especially when it comes to latent phenomena, such as customers' intention, perceptions, attitudes, etc. [74].

To conduct SEM, we applied the partial least squares structural equation modelling method (PLS-SEM). This approach can be used for estimating complex models, without the need to follow the assumptions associated with data distribution; moreover, it overcomes "the apparent dichotomy between explanation—as typically emphasized in academic research—and prediction, which is the basis for developing managerial implications" [76] (p. 3). PLS-SEM was widely implemented in numerous different social science disciplines, such as marketing management, strategic management, human resource management, operations management, international management, etc. [76]

In regard to the use of PLS-SEM, when evaluating reflective constructs, the steps proposed by Hair et al. [76] were followed:

- The examination of indicator loadings—values higher than 0.7 are recommended, proving the item reliability;

- The assessment of internal consistency reliability by the use of Cronbach's α , composite reliability (CR) and ρ_A —values between 0.70 and 0.95 are satisfactory;
- The assessment of convergent validity by the use of the average variance extracted (AVE)—values higher or equal to 0.50 are acceptable;
- The assessment of discriminant validity by the use of the heterotrait-monotrait (HTMT) ratio of the correlations—HTMT lower than 0.85 is acceptable.

The evaluation of the structural model has also been conducted in accordance with recommendations from previously mentioned authors, which included collinearity analysis and the examination of R^2 and Q^2 values. In order to test the first five hypotheses (H_1 – H_5), we examined path coefficients between behavioral intention and its predictors, as well as between environmental consciousness and attitude. On the other hand, for testing hypothesis H_6 , two groups (male and female) were generated, where path coefficients and their significance have been analyzed for each gender. Additionally, for testing the differences between genders, partial least squares multigroup analysis (PLS-MGA) was applied. All processing was carried out in SmartPLS 4 software.

4. Results

4.1. Measurement Model

Quality criteria of reflective constructs (outer loadings, AVE, Cronbach's α , CR, and ρ_A) are presented in Table 1.

Table 1. Quality criteria—Loadings, AVE and CR.

Constructs and Items	Loadings	AVE	CR	Cronbach's α	ρ_A
Perceived behavioral control		0.737	0.918	0.883	0.927
PBC1	0.805				
PBC2	0.905				
PBC3	0.897				
PBC4	0.822				
Subjective norms		0.655	0.850	0.734	0.750
SN1	0.887				
SN2	0.803				
SN3	0.731				
Attitude		0.676	0.862	0.759	0.772
AT1	0.817				
AT2	0.766				
AT3	0.880				
Behavioral intention		0.759	0.926	0.894	0.895
BI1	0.846				
BI2	0.889				
BI3	0.900				
BI4	0.850				
Environmental consciousness		0.727	0.914	0.877	0.893
EC1	0.820				
EC2	0.858				
EC3	0.870				
EC4	0.860				

All outer loadings were above 0.70, which confirmed individual indicator reliability. Internal consistency reliability and discriminant validity were also confirmed; values of Cronbach's α , CR, and ρ_A were between 0.70 and 0.95, while values of AVE were higher than 0.50.

The values of HTMT were lower than a threshold of 0.85 for all pairs, suggesting satisfactory results in terms of discriminant validity (Table 2).

Table 2. HTMT approach—Discriminant validity.

	HTMT
BI → AT	0.712
EC → AT	0.307
EC → BI	0.281
PBC → AT	0.314
PBC → BI	0.377
PBC → EC	0.108
SN → AT	0.560
SN → BI	0.342
SN → EC	0.055
SN → PBC	0.577

4.2. Structural Model

The analysis of inner VIF values has shown that there were no multicollinearity issues, bearing in mind that their values were below 5. The R^2 value in the case of behavioral intention was 0.406, and in the case of attitude it was 0.067. Additionally, Q^2_{predict} values were higher than 0.

Relations between analyzed constructs are presented in Table 3. When it comes to direct effects on behavioral intention (BI), positive and significant path coefficients were related to attitude (AT) and perceived behavioral control (PBC), confirming hypotheses H_1 and H_2 . Contrary to those predictors, the effect of subjective norms on behavioral intention was insignificant because of this hypothesis H_3 has not been confirmed. In addition, the attitude was positively and significantly influenced by environmental consciousness; thus, confirming H_4 . Furthermore, environmental consciousness positively and significantly influenced behavioral intention; suggesting the confirmation of H_5 .

Table 3. Path coefficients.

Path Coefficients	Direct Effect	p-Value	Hypotheses
AT → BI	0.518	0.000	H_1 Accepted
PBC → BI	0.243	0.000	H_2 Accepted
SN → BI	−0.055	0.126	H_3 Rejected
EC → AT	0.260	0.000	H_4 Accepted
EC → BI	0.117	0.000	H_5 Accepted

Direct effects on behavioral intention have been examined separately for the female and male gender. Their values, as well as the results of the multigroup analysis, are shown in Table 4.

Table 4. Direct effects—gender aspect.

Path Coefficients	Direct Effect				Difference	p-Value
	Female	p-Value	Male	p-Value		
AT → BI	0.486	0.000	0.489	0.000	−0.002	0.968
PBC → BI	0.316	0.000	0.037	0.684	0.279	0.004
SN → BI	0.007	0.853	0.032	0.782	−0.025	0.908
EC → BI	0.113	0.005	0.203	0.039	−0.090	0.367

From the gender aspect, a significant difference between direct effects on behavioral intention has been detected only in the case of perceived behavioral control (PBC); hereby, while for the female gender it was significant and positive, for the male gender it was insignificant. Thus, hypothesis H_6 is partially confirmed.

5. Discussion

Concern for the environment has to be included in companies' strategies and activities, regardless of the industry to which they belong. Therefore, banks should also take certain steps in this direction; they can make everyday operations (for example the use of electricity) greener, and offer services in line with environmental needs. This paper analyzed customers' intention toward those services by applying the theory of planned behavior, extended with environmental consciousness and gender. In accordance with the obtained results, significant effects on behavioral intention were detected for environmental consciousness, attitude, and perceived behavior control. This was not the case with subjective norms whose influence on behavioral intention was insignificant.

A positive and significant effect of attitude on customers' intention was detected in some similar studies [38,59,62], although there is a study in which it was insignificant [60]. Hence, the intention to use green banking services largely depends on customers' positive attitude toward them. In other words, if a customer likes the idea of adopting GB services and considers it a good choice, her/his intention to use these services will increase as well.

The attitude was positively affected by environmental consciousness, which is consistent with the results of Mishal et al. [65] and Taneja and Ali [38]. It suggests that customers who appreciate the balance of nature and value the need for humans to live in harmony with it since otherwise the consequences can be disastrous, have a more favorable attitude toward products/services that are eco-friendly; thus, eco-conscious customers are more likely to consider adopting green banking services as desirable.

When it comes to perceived behavior control, a positive and significant influence was also found in several studies related to green purchase intention, such as Bhutto et al. [62] and Moon [77]. Therefore, if a customer perceives that GB services are easy to use, the intention for their adoption will be greater.

In regard to the subjective norms, despite the fact that the obtained results were not in a line with many similar studies [38,60,62,77], the insignificant influence of mentioned variable on behavioral intention was found in the research of Kumar et al. [59]. The reason for this may lie in the respondents' lower level of accessibility to the collective self, and in the unclear line between individualism and collectivism [59].

When it comes to the relationship between environmental consciousness and behavioral intention, its significance was also confirmed in studies by Li et al. [63] and Dang et al. [64].

When it comes to gender, a significant difference in direct effects on customers' intention was detected only in the case of perceived behavior control. Its effect on behavioral intention was significant and positive for females and insignificant for males. In accordance with certain studies, females are considered to be more concerned about environment-related themes than males [69], whereby they will try to perform environmentally friendly behavior, despite the difficulties associated with self-efficacy, time, and money [62].

6. Conclusions

The theory of planned behavior was used in many studies as a basis for examining behavioral intention toward products and services from different business sectors. It was applied in studies related to various types of banking services, as well as for analyzing customer intention and behavior regarding green products and services. In this paper, the TPB approach was implemented with the intention of investigating behavioral intention toward green banking services. Following similar research [38], the model was extended with environmental consciousness as a predictor of attitude and behavioral intention. In addition, relations between customers' intention and its predictors (attitude, subjective norms, perceived behavior control, and environmental consciousness) were tested separately for the male and female gender. To the authors' knowledge, this is the first study that investigates behavioral intention toward green banking services by using all mentioned variables. Its results pointed to the importance of environmental consciousness, attitude

and perceived behavior control when it comes to customers' intention, whereby, in the case of the latter, the attention should be dedicated to gender differences.

Research findings may have certain practical implications, especially for bank managers. Starting from the expectations according to which customers will be increasingly interested in environmentally sustainable products and services [59], banks should seriously consider the offer of green banking services. In order to develop adequate marketing strategies, among others, they need to understand customers' intentions toward those services. The emphasis should be on the customer's attitude as an important predictor of behavioral intention. Marketers should work on creating positive attitudes toward green banking services by undertaking promotional activities. Hence, the communication with customers should be based on revealing the benefits of green services, related not only to service users but also to the environment [38]. In this way, by pointing to certain environmental issues, customers may become more environmentally conscious, and thus, positively more inclined to green banking services. Considering the positive influence of perceived behavior control, the whole process of using green banking services should be simplified in a way to minimize the customer's effort, time, and costs needed for their implementation.

When it comes to potential policy implications arising from this research, they can be considered in the context of policy recommendations provided in previously cited research [19–21]. Hereby, since the Republic of Serbia is on its path to joining the EU and could be, to an extent, compared to developing countries from that union, we can rely on recommendations for such countries. It should be stressed that the rise of green energy consumption, together with the promotion of economic activity, and participation of consumers and businesses, is supported by the emerging financial market [19]. In addition, attention should be dedicated to interactions between innovation ecosystem factors (such as business dynamism and innovation capability) and the market factor (final goods and services market, human capital market, financial system, and size of the market) since both could lead to facilitating renewable energy strategies' implementation [20,21].

Having in mind that the model used in this paper was based on the theory of planned behavior, future research may include additional variables that could explain the basic TPB predictors. Moreover, the behavior variable, which should arise from intention, could also be included in the analysis.

The topic related to green banking could be examined in the context of service quality; the subject of the research may be the influence of the offer of green banking services on overall quality and its dimensions.

Author Contributions: All of the authors formulated the goals of the research and interpreted available literature; conducting and analyzing research was performed by N.D., N.M. and B.K., while implications were developed by V.M. and I.D. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Provincial Secretariat for Higher Education and Scientific Research, AP Vojvodina, Republic of Serbia, by the project "Financial, marketing and management aspect of energy efficiency in the function of sustainable development of the AP Vojvodina"—a long-term project of special interest for sustainable development in AP Vojvodina 2021–2024. Project number: 142-451-3167/2022.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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