



Journal of Internet Banking and Commerce

An open access Internet journal (<http://www.icommercecentral.com>)

Journal of Internet Banking and Commerce, March 2023, Vol.28, No.1

Antecedents of Green Buying Behavior: Contextual Analysis of Theory of Planned Behavior in Ethiopia

Abera Legesse Yada^{*}, Satinder Kumar
Department of Management
Addis Ababa University,
Addis Ababa, Ethiopia
Email: aberalegesseyada@gmail.com

Received date: 10-05-2021, Manuscript No. JIBC-21-31192;

Editor assigned date: 13-05-2021, Pre QC No. JIBC-21-31192 (PQ);

Reviewed date: 27-05-2021, QC No. JIBC-21-31192;

Revision date: 03-02-2023; Manuscript No. JIBC-21-31192 (R);

Published date: 03-03-2023

Abstract

Consumption pattern is highly harming environment and nations at every corners are reaping the spiteful result of the damage. Though many claimed the inconsistency between intention and behavior, none was able to examine reasons for the discrepancy. A total of 402 academic staffs from eight private and public universities in Addis Ababa, Ethiopia are randomly approached to solicit data. Structural equation and process macro methods are used for data analysis purpose. The results of study ascertain that environmental knowledge and subjective norm are best predictors of green behavior.

Keywords: Green behavior, Green intention, Green products, Consumption

Introduction

People wrongly perceive green marketing solely as the promotion of products with environmental characteristics, However, green marketing deals with broad range of activities including changes on product design, production process, packaging and advertising as deemed important and defined green marketing as transaction resulting in customer satisfaction at minimum environmental impact. Overall, green marketing is an effort to produce, promote, distribute, package or recycle product in environment friendly approaches.

Environmental issues are becoming an agenda of the time to the globe. For instance, study made by evidenced that in Africa focus is gradually shifting from politics, wars, HIV-AIDS and poverty to environmental issues. Also claimed that environmental issue has steadily increased in recent years as the impact of pollution, climate inconsistencies and rising fuel prices has been more widely experienced; global warming and carbon emissions have become international concerns. Such acrimonious result the globe is going through has raised public awareness about natural environment.

It is proved that consumers are becoming more knowledgeable about environment due to media coverage about environmental protection, deterioration and climate change. The dramatic increase in customers' awareness made companies to start thinking of how to serve these segments. Wal-Mart spends \$500 million a year, GE is investing \$10 billion over five years and general motors is spending \$2.5 billion a year mentioned that companies like clorox spent \$25 million in 2008 and spent \$15.4 million in 2009 to go with the growing market of green products.

Ethiopia, as part of the continent must go through such major changes. However, to the knowledge of the researcher, there is less awareness and systematic scientific studies about green marketing in the country. On the other hand, many previous empirical studies evidenced that predictors of behavior vary in different culture and this creates difficulty of generalizing the findings across the globe. Besides, many writers worked on the effects of different psychometric variables on intention but failed to examine intention and behavior at a time. Hence, beyond the contextual testing of the variables, the study addresses the effects of different psychometric factors on actual green buying behavior and examines the very reasons for intention-behavior inconsistency claimed by many writers.

Environmental concern

Environmental concern is individuals' emotional attachment to environmental issues. Defined in the work of Heo and Muralidharan, Sjoberg, Takala, Gärling viewed environmental concern as an evaluation of own or others' behavior and its consequences on environment. Environmental concern predicts green products choice (Lee, (Bertrandias, 2014) and Elgaaied-Gambier). Different writers including Ellen et al., Mainieri et al., Polonsky et al., Heo and Muralidharan and Jaiswal and Kant evidenced that environmental concern is a strong predictor of consumers' green purchase intention. The above claims hint the following hypothesis.

H1: Environmental concern has positive and significance influence on green purchase intention.

Environmental knowledge

Used in defined environmental knowledge as what customers know about environmental problems, eco-system, human behavior impact on environment and pro-environment products. Among writers who claimed environmental knowledge has significant influence on consumers' intention to buy environmental friendly products. It is also evidenced that there is positive relationship between environmental knowledge and green buying behavior. Hence the above findings lead to the following hypothesized relationship.

H2: Environmental knowledge affects green behavior directly and through the mediating role of green intention.

Personal norm

Personal norm is feeling of moral obligation to act pro-socially and environmentally work to define personal norm as feelings of strong moral obligation to engage in green behavior. It explained personal norm as more of personal and what a person feels should do in a given consumption. It stated consumers with stronger green value tend to make decision consistent with environmentally sustainable consumption. It also supported the positive relationship between personal norm and green intention. Depending on the said evidences, the following is postulated.

H3: There is positive and direct relationship between personal norm and green purchase intention.

Trust in green products

It is defined green trust as one's will to rely on one object, beliefs and credibility of products' environmental performance. Green trust is consumers willingness to depend on a product, service, or brand based on the belief or expectation resulting from its credibility, benevolence and ability about its environmental performance referred the works and claimed trust on green products' performance has a positive influence on green purchase intention. Therefore, the study hypothesizes the following relationship.

H4: There is positive relationship between trust in green products and consumers green buying intention.

Attitude towards environmental behavior

Attitude is sets of views about a given object (Ajzen, 2021) defined attitude as an evaluation of objects, people or topics characterized by a clear inclination toward one direction. Writers including claimed that attitude towards environmental behavior explains consumers' green intention. Hence, the above findings give a clue to propose the following relationship.

H5: Attitude towards green behavior is a positive predictor of green purchase intention.

Subjective norm

Subjective norm is perceived social pressure on consumers to exhibit certain behavior. Subjective norm is belief of approve or disprove of particular behavior. Subjective norm tells an individual consumer about the appropriateness of the behavior said reference groups including friends, families, peers, neighbors, coworkers, religious people has an influence on consumers' green buying intention. Evidenced that reference group has an effect on consumers buying behavior. Based on the above, analysis the following is proposed.

H6: Subjective norm has direct impact on green behavior and indirect influence through the mediating role of green purchase intention.

Perceived consumers effectiveness

Ellen et al. defined perceived consumer effectiveness as consumers' belief to make difference in solving environmental damage. (Bandura, 1986) view it similar to self-efficacy and Cleveland et al. defined it as internal control of locus held by consumers that their personal commitment can make a difference in sustaining the environment.

Many previous research works including Kinner et al., Ellen et al., Roberts, Vermeir and Verbeke, Cleveland et al. and Wesley et al. claimed perceived consumers effectiveness is a significant predictor of pro-environmental behavior. Jaiswal and Kant also revealed that it positively affects green purchase intention. Depending on the above discussions, the following relationship is hypothesized.

H7: Perceived consumers effectiveness has a direct positive effect on green buying behavior and indirect effect through the mediating role of green intention.

Green purchase intention

Intention is willingness or determination to act in a certain way. Previous research works like Ajzen, (Angelovska, 2012). Wee and Ariff et al. and Kumar, et al. said individual's performance of a certain behavior is determined by his or her intent to perform the behavior.

(Ajzen, 1975) also claimed that most psychometric factors predict behavior through intention. Hence the above facts lead to the following proposition.

H8: Green purchase intention plays a mediating role between environmental knowledge, personal norm, environmental concern, trust in green products, attitude towards green behavior, perceived consumers effectiveness, subjective norm and green behavior.

Materials and Methods

Sample and data collection

The study targeted academic staffs working in eight universities operating in Addis Ababa, Ethiopia. Prior to the final data collection, pilot study was made among 30 academic staffs with better teaching and research experience and minor wording modification was made on data collection instruments. Finally, using self-administered questionnaire survey method, 402 staffs were randomly approached.

Instrument development

Measurement scales of each variable were adapted from previous studies. Accordingly, items for environment concern were adapted. Measurement scale for environmental knowledge is taken. Personal norm and trust in green product were measured by adapting scales.

Attitude was measured using scale taken. Social norm was evaluated by using validated items taken. Scales for perceived consumers' effectiveness are taken. Green purchase intention was examined using items developed. Finally, green behavior was measured by using instruments adapted.

Data analysis methods

Missing values, outliers and unengaged responses were checked using SPSS version 24 and Microsoft Excel 2010. The cleaned data was checked for multivariate normality, multi collinearity and reliability using Exploratory Factor Analysis (EFA).

After data cleaning, Confirmatory Factor Analysis (CFA) was used to evaluate for validity and measurement model fits.

Finally, Structural Equation Model (SEM) was used to check the structural model fits and test the proposed hypothesis. Process macro version 3.4 was also used to evaluate the mediating role of green purchase intention. To this end, AMOS version 23 was used to examine the hypothesized structural relationships.

Results and Discussions

Descriptive analysis

A total of eight private and public universities operating in Addis Ababa, Ethiopia are used to source the data. From these universities a total of 402 academic staffs 341 (84.8%) male and 61 (15.2%) female are randomly approached. Age of the respondents ranged from early working age to elderly age (19-24=18 (4.5%); 25-44=334 (83.1%); 55-64=41(10.2%); and 65+=9 (2.2%). The minimum monthly income is 3000 Birr and the maximum is 23,000+Birr per month.

Majority of the respondents 185(46%) earns 8001 Birr-13000 Birr while 128(31.8) earns 13,001 Birr-18,000 Birr per month and 24 (6%) gets the maximum income (23,000+Birr). The remaining 43 (10.7%) and 22 (5.5%) are earning 3000 Birr-8000 Birr and 18,001 Birr-23,000 Birr respectively. The respondents are also of different educational profile ranging from first degree 25 (6.2%) to PhD and above 35 (8.7%). Majority are second degree holders (MA/MSC) 227 (56.5%) and PhD level 114 (28.4). The marriage composition of the respondents indicates 276 (68.7%) are matrimonial and 113 (28.1%) are single, 10 (2.5%) divorced; and 3 (0.007%) are widowed. In conclusion, respondents of diverse gender, age, income, education and marital background contributed to the study.

Missing values, outliers and multivariate normality

Before running the Structural Equation Model (SEM), missing values was checked using Microsoft Excel 2010 and found no missing values. Existence of outliers was checked using Mahalanobis (d^2) square distance values. Recommended by observations with a ratio of d^2 and degree of freedom (d^2/df) exceeding 2.5 in small and 3 or 4 in a large sample are possible outliers.

With reference to this, no outlying values are observed. Normality of the data was checked using skewenes and kurtosis and all observations are found to have value between +2 and -2 indicating absence of kurtotic and skewed data.

Multicollinearity

Multicollinearity was checked using Tolerance (T) and Variance Inflation Factor (VIF). As evidenced, Tolerance (T) value less than 0.20 and Variance Inflation Factor (VIF) greater than 5 demonstrates presence of multicollinearity problem. To this effect, analysis results evidenced that data is free of multicollinearity problem (Table 1).

Variable	PN	EK	EC	PCE	ATEB	TIGP	GPI	SN
T	0.583	0.668	0.516	0.423	0.844	0.617	0.463	0.633
VIF	1.714	1.496	1.939	2.363	1.184	1.62	2.161	1.58
Note: GB: Dependent Variable; T: Tolerance; VIF: Variance Inflation Factor								

Table 1: Collinearity statistics.

Measurement model

For further validation, prior to Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA) was made and found all values consistent with acceptable ranges set by different scholars. The goodness of fit was examined using a combination of χ^2 value and the associated Degree of Freedom (df), Goodness of Fit Index (GFI), Standard Root Mean Square Residual (SRMR), Confirmatory Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA). The ratio of χ^2 and degree of freedom (χ^2/df) below 2 is the recommended value. The Goodness of Fit Index (GFI) shall be close to 1 (Byrne, 2010). In a well-fitting model the recommended value of SRMR is 0.05 or less. TLI and CFI value close to 0.95 demonstrate good fit. Root Mean Square Error of Approximation (RMSEA) below 0.05 is the recommended value for a good model fit. Hence, value of $\chi^2/df=1.744$, GFI=0.891, SRMR=0.0480, CFI=0.951, TLI=0.945 and RMSEA=0.043 evidences good measurement model fit.

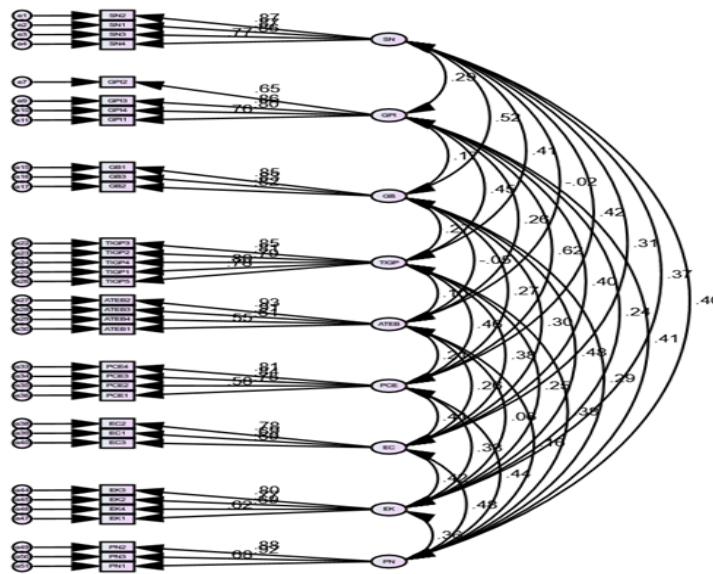


Figure 1: CFA model and its results.

The internal consistency of the constructs were examined using the 0.70 and above cut off point proposed. As presented in Table 2, the Cronbach's α values ranged from 0.762 to 0.906 evidencing that all reliability values are above the set cut off point and the items are strongly consistent in measuring the constructs.

Besides, in order to ensure construct validity, both convergent and discriminant validity were established. Convergent validity are examined using factor loadings, Composite Reliability (CR) and Average Variance Extracted (AVE). It is recommended items loading shall be at least 0.50. Acceptable threshold for Average Variance Extracted (AVE) is 0.50 and above and 0.70 and greater for composite reliability. Overall, statistical results displayed in table II evidences that validity of constructs is well established (Table 3).

Item	Construct	Factor loading	CR	AVE	Cronbach's α
SN1	Subjective norm	0.865	0.91	0.711	0.906
SN2		0.874			
SN3		0.863			
SN4		0.767			
GPI1	Green purchase intention	0.756	0.85	0.595	0.849
GPI2		0.655			

GPI3		0.856			
GPI4		0.803			
GB1	Green behavior	0.851	0.87	0.694	0.871
GB2		0.822			
GB3		0.826			
TIGP1	Trust in green products	0.797	0.9	0.651	0.902
TIGP2		0.813			
TIGP3		0.849			
TIGP4		0.792			
TIGP5		0.781			
ATEB1	Attitude towards environmental behavior	0.55	0.85	0.591	0.835
ATEB2		0.928			
ATEB3		0.911			
ATEB4		0.609			
PCE1	Perceived consumers effectiveness	0.575	0.84	0.563	0.824
PCE2		0.752			
PCE3		0.838			
PCE4		0.808			
EC1	Environmental concern	0.692	0.77	0.522	0.762
EC2		0.779			
EC3		0.692			
EK1	Environmental knowledge	0.617	0.81	0.521	0.81
EK2		0.77			
EK3		0.801			
EK4		0.686			
PN1	Personal norm	0.677	0.87	0.697	0.861
PN2		0.884			
PN3		0.922			

Note: CR=Composite Reliability, AVE=Average Variance Extracted

Table 2: Convergent validity.

EK	SN	GPI	GB	TIGP	ATEB	PCE	EC	PN
0.722								
0.369	0.843							
0.24	0.29	0.77						
0.477	0.523	0.18	0.833					
0.249	0.406	0.45	0.266	0.807				
0.06	-0.02	0.26	-0.05	0.102	0.769			
0.334	0.422	0.62	0.269	0.461	0.21	0.75		
0.417	0.308	0.4	0.299	0.379	0.262	0.409	0.72	
0.359	0.396	0.41	0.292	0.381	0.163	0.436	0.48	0.835

Table 3: Discriminant validity results.

Discriminant validity explains the difference between constructs. For a discriminant validity to exist, the square root of Average Variance Extracted (AVE) shall be greater than the correlation of the particular construct and the other construct. The above analysis designates that all the constructs adequately demonstrated discriminant validity.

Structural model

Structural model was examined to test model fits and the proposed hypothesis. The output of SEM showed the following results (Table 4).

Category of the index	Name of the index	Cut off point	Output of SEM
Absolute fit	GFI	Shall be close to 1	0.89
	RMSEA	<0.05	0.043
	SRMR	<=0.05	0.049
Incremental fit	CFI	Shall be close to 0.95	0.952
	TLI	Shall be close to 0.95	0.945
Parsimonious fit	Chisq./df	<2	1.736

Table 4: Model fitness indices.

With reference to the indices depicted in Table 4 marks the fitness of the model to the observed data.

Hypothesis testing

Theory of planned behavior was used as a framework to identify the antecedents and establish relationships. The study tests the impact of different psychometric variables on green purchase behavior directly and through mediating role of green intention. As shown in Figure 2 subjective norm, environmental knowledge and perceived consumers effectiveness are hypothesized to have direct and indirect impact on green buying behavior.

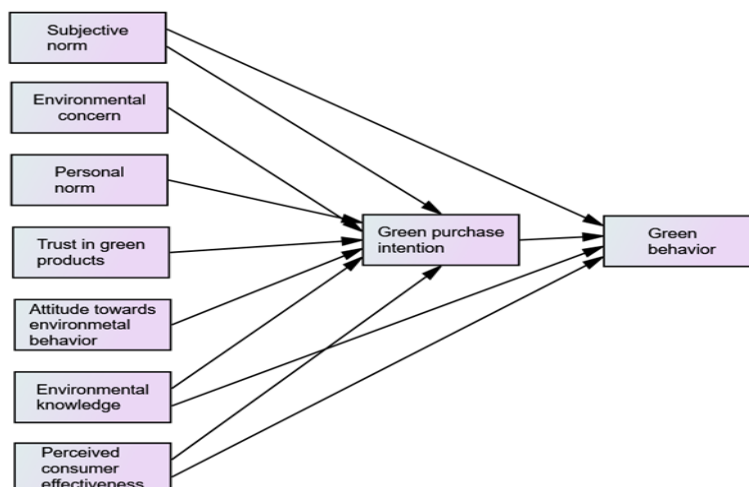


Figure 2: Hypothesized relationship.

With reference to β value and p-value (Table 5) personal norm, trust in green products, attitude towards environmental behavior, perceived consumers effectiveness are found to have significant effect on green purchase intention. And subjective norm and environmental knowledge got direct effect on green buying behavior. The effect of environmental knowledge, environmental concern and subjective norm on green purchase intention is insignificant and the direct influence of perceived consumers' effectiveness on green buying behavior is also insignificant. The result also reveals that perceived consumers effectiveness is the strongest predictor of green purchase intention while trust in green product, personal norm, and attitude towards environmental behavior are the next positive predictors respectively. Subjective norm and environmental knowledge are found to have direct positive significant effect on green behavior in order of their β value.

Path	Estimate (β value)	P-Value	Result
GPI<---EK	-0.021	0.653	Not supported
GPI<---PN	0.095	0.037	Supported
GPI<---EC	0.074	0.211	Not supported
GPI<---TIGP	0.152	0.002	Supported
GPI<---ATEB	0.061	0.033	Supported
GPI<---PCE	0.465	***	Supported
GPI<---SN	-0.024	0.568	Not supported
GB<---PCE	0	0.998	Not supported
GB<---SN	0.439	***	Supported
GB<---EK	0.39	***	Supported

Note: *** $P < 0.001$, EK=Environmental Knowledge, PN=Personal Norm, EC= Environmental Concern, TIGP=Trust In Green Product, ATEB=Attitude Towards Green Behavior, PCE=Perceived Consumer Effectiveness, SN=Subjective Norm, GPI=Green Purchase Intention, GB=Green Behavior

Table 5: Standardized regression weights and P-Values.

Statistical results shown in Table 6 are produced using process-macro (version 3.4) with SPSS syntax. The mediating effect of green purchase intention is evaluated against bootstrap confidence values mentioned in the Table that is whether the bootstrap confidence interval includes zero or not. If zero lies between lower limit and upper limit, the indirect effects of the variable is zero if not it denotes the population value lies between the two limits. With reference to this, intention mediates environmental knowledge at $\beta=0.2121$, lower=0.1282 and upper=0.3024; personal norm at $\beta=0.1890$, lower=0.1026 and upper=0.2905; environmental concern at $\beta=0.2052$, lower=0.1272 and upper=0.3089; perceived consumers' effectiveness at $\beta=0.3176$, lower=0.1595 and upper=0.4577; trust in green product at $\beta=0.1806$, lower=0.0921 and upper=0.2654 and subjective norm at $\beta=0.2633$, lower=0.1669 and upper=0.3624. However, intention fails to mediate attitude towards green consumption at $\beta=-0.0410$, lower=-0.0894 and upper=0.0032. Hence, intention mediates all proposed psychometric variables except attitude towards green behavior.

Interactions	Effect (β value)	Boot LLCI	Boot ULCI	Status
GB<---GPI <---EK	0.212	0.1282	0.3024	Significant
GB<---GPI <---PN	0.189	0.1026	0.2905	Significant
GB<---GPI <---EC	0.205	0.1272	0.3089	Significant
GB<---GPI <---IGP	0.181	0.0921	0.2654	Significant

GB<---GPI<---TEB	-0.041	-0.0894	0.0032	Not significant
GB<---GPI <---CE	0.318	0.1595	0.4577	Significant
GB<---GPI <---SN	0.263	0.1669	0.3624	Significant
Note: LLCI=Lower Limit Confidence Interval, ULCI=Upper Limit Confidence Interval				

Table 6: Mediation analysis.

Using theory of planned behavior as a reference, the study assessed the effect of different antecedents on green buying behavior directly and through the mediating role of green purchase intention. To the knowledge of the researcher, very few if not none examined whole relationship claimed by theory of planned behavior at a time. Many emphasized on the relationship between different psychometric variables and intention. Yet, the proposed relationships are also new phenomena in Ethiopian context. For more in depth insight, the researcher opted to test the whole theory at a time with additional new proposed relationships. In addition to few variables introduced as predictors of intention, environmental knowledge and subjective norm are also proposed to directly explain actual buying behavior. Structural equation model results revealed that trust in green product, attitude towards green product, perceived consumer effectiveness and personal norm are found to explain green intention. Besides, subjective norm and environmental knowledge are proved to directly explain the variation in actual buying behavior.

Chen and Chang is a writer supporting the positive relationship between green intention and trust include. Zhao et al. and Nguyen et al. are among writers supporting the effect of attitude on buying intention. Gupta and Ogden, Gleim et al. and Jaiswal and Kant are few among writers supporting positive relationship between perceived consumer effectiveness and intention (Arvola, 2008), (Baker, 2003) and Gleim et al. also proved the direct effect of personal norm on buying intention. The direct effect of subject norm on buying behavior is supported and also in favor of the direct influence of environmental knowledge on green buying decision. Statistical result also proved that environmental knowledge, subjective norm and environmental concern have no significant effect on buyers' intention. Perceived consumers' effectiveness also fails to directly explain behavior. (Chaudhary, 2018) and Bisai, Qomariah and Prabawani and Setyawan et al. are works supporting low effect of environmental concern on intention. Insignificant effect of environmental knowledge on buyer intention is also claimed by different writers including (Chan, 2000), (Chan, 2010) and Lau, Wolsink, Chekima et al. and Ramayah and Rahabar cited in Joshi and Rahman. Connell, Lee, Rahman and Kumar et al. are an evidence for absence of significant relationship between subjective norm and intention. Heo and Muralidharan also proved the insignificant direct effects of perceived consumers' effectiveness on actual buying behavior.

Process macro result also shows that among the said psychometric factors, intention failed to mediate only attitude towards green behavior. To this end, previous research works were consulted to check the results against past studies. Accordingly, Moser and Nguyen et al. supported the claimed relationship between personal norm and behavior while Chen and Chang produced the same result on the effect of trust in green product. The direction and effects of perceived consumers' effectiveness was also supported by Joshi and Rahman. Welsch et al. and Eze et al. also echoed the relationship between subjective norm and behavior. On the other hand, Smith et al. and Heo and Muralidharan proved the positive effects of environmental knowledge and environmental concern on green buying behavior respectively.

However, (Bang, 2000) and Wolsink evidenced the weak relationship between attitude and green consumption. Personal norm, attitude towards green behavior, perceived consumer effectiveness and trust in green products are significant predictors of intention. Nevertheless, of these variables, attitude failed to explain behavior as intention couldn't mediate the effect. On the other hand, though intention mediates the effect of environmental concern, statistical result evidenced that it has insignificant effect on intention. Overall, except behavior and environmental concern, all proposed psychometric variables got direct or indirect effect on actual green consumption.

Theoretical and managerial implications

(Carrington, 2010), (Andorfer, 2012) and Liebe echoed that much more effort has been given by many writers in exploring intention not the behavior. This study also strongly claims that intention and behavior are rarely studied at time. And this might have contributed to the blurred awareness about the cause for the intention-behavior discrepancy.

Theory of Planned Behavior (TPB) claims the variation in behavior is explained by different psychometric factors directly and mainly through the mediating role of intention. In this study, different variables were included to TPB for better in depth insight about consumption behavior in Ethiopia. The current low environmental knowledge of customers and the influence of peers and groups on consumption pattern in the country were taken in to account to introduce the new relationships. Prominently, the direct effect of subjective norm and environmental knowledge on behavior is a new relationship claimed by this study. In this regard subjective norm and environmental knowledge are significant predictors of behavior at $\beta=0.439$ and $\beta=0.390$ respectively and these are top coefficient compared to other variables (see Table 5 and 6). Hence, the study claims that the newly introduced relationship could be an extension to theory of planned behavior to further explain green marketing behavior. Unlike TPB, the study proved that consumer feeling of making difference doesn't directly lead to actual consumption. Instead, the result showed that such feeling create intention which could later change to behavior. Hence, the contextual analysis made in Ethiopian market showed that perceived consumers effectiveness doesn't directly lead users to actual green consumption. Henceforth, this is another theoretical contribution to those who wants to understand green behavior in similar cultural and market settings. Therefore, comprehensive examination of the whole theory of planned behavior has shown the failure of intention to mediate behavior, the insignificant direct impact of perceived consumer effectiveness on behavior and the new relationship between subject norm, environmental knowledge and behavior which are additional view to existing theory.

By and large, the contextual study of green consumption behavior in Ethiopia indicated that personal norm, perceived consumer effectiveness and trust in green products indirectly explains behavior while environmental knowledge and subjective norm directly predicts behavior. And the β coefficient tells that subjective norm and environmental knowledge are the best predictors of green behavior in Ethiopia. This may give clue that working on these variables could be a way out to minimize intention-behavior mismatch claimed by many writers.

Conclusion

In conclusion, environmental concern and attitude failed to indirectly explain behavior and this may give clue to future researchers that their direct effect may need further examination.

Overall, the study gives clue to policy makers, managers and environmental campaigners that working on personal norm, perceived consumers and trust in green product indirectly affects behavior but the better we work on environmental knowledge and subjective norm, the better the actual green consumption will be.

Limitations and future research directions

Studies made in different context and countries demonstrated that consumers' behavior varies across different green products. This study targeted green products in general not particular green product. The researchers believe that considering specific green product may result in different consumption behavior. The study also targeted academic staffs of educational institutions in Addis Ababa, Ethiopia. Including non-academic staffs and other parts of the community may give full insight about the issue.

Declarations

Author contribution statement

The authors initiated, designed, collected, analyzed and interpreted the data and wrote the paper.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Competing interest statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

References

1. Ajzen I, "Nature and operation of attitudes," *Ann. Rev. Psychol*, Vol.52, pp. 27-58, 2021.
2. Ajzen, I. "The theory of planned behavior." *Handbook of Theories of Social Psychol*, Vol.1 No. 211, pp. 438-459, 2012.
3. Ajzen, I. "Attitude-behavior relation: A theoretical analysis and review of empirical research." *Psychol Bullet*, Vol.84, pp. 888-918, 1975.
4. Andorfer, V. "Research on fair trade consumption: A review." *J Bus Ethics*, Vol.106, pp. 415, 2012.
5. Angelovska, J. "The impact of environmental concern and awareness on consumer behavior." *J Int Environ Appl Science*, Vol.7 No. 2, pp. 406-416, 2012.
6. Arvola, A. "Predicting intentions to purchase organic food: The role of affective and moral attitudes in the theory of planned behavior." *Appetite*, Vol.50 No. 2, pp. 443-454, 2008.
7. Baker, J. "The marketing book. Great Britain." Kent Print, 2003.
8. Bandura, A. "Social foundations of thoughts and action: A social cognition theory. Englewood Cliffs." NJ: Prentice-Hall. Vol.50 No. 2, pp. 443-454, 1986.

9. Bang, HK. "Consumer concern, knowledge, belief, and attitude toward renewable energy: An application of the reasoned action theory." *Psychol Market*, Vol.17 No. 6, pp. 443-454, 2000.
10. Bertrandias, L. "Others' environmental concern as a social determinant of green buying." *J Consume Market*, Vol.31 No. 6/7, pp. 417-429, 2014.
11. Byrne, BM. "Structural equation modeling with AMOS." Taylor and Francis, 2010.
12. Carrington, M. "Why ethical consumers don't walk the talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behavior of ethically minded consumers." *J Bus Ethics*, Vol.97, No. 6/7, pp. 139-158, 2010.
13. Chan, RYK. "Antecedents of green purchases: A survey in China." *J Consumer Marketing*, Vol.17, No. 4, pp. 338-357, 2000.
14. Chan, RYK. "Determinants of Chinese consumers' green purchase behavior." *Psychol Market*, Vol.18, No. 4, pp. 389-413, 2010.
15. Chaudhary, R. Factors influencing green purchase behavior of millennials in India. *Manag Environl Quality: Int J*, Vol.29, No. 5, pp. 798-812, 2018.