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FACTOR STUDY OF THE INDIAN PUBLIC'S INCLINATION TO PURCHASE SOLAR ENERGY PRODUCTS: MODERATING ROLE OF SOCIAL MEDIA

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Abstract

This study focus to identify those factors that influence the intention of purchase solar energy products in India in Urban or Metro cities, this is very important for government to promote and motivate to customer to use or adopt green energy which save environment and low dependency on natural resources. Multiple linear regression was used to analyses quantitative data collected through an online questionnaire survey. A total of 502 valid responses were obtained from a convenient sample of household heads. This study define the relationship between consumer attitude and purchase intention is influenced by a number of factors, including performance expectations, price, and government facilities and perceived behavior control. This study also discusses how social media has affected customer attitude and how people see government services and subsidies in term of facilities. The results provide empirical evidence of important factors to drive the adoption of solar energy solutions in metro cities in India. This is also identify the role of social media when government directly or indirectly boost the solar programme in urban or rural areas.

Keywords: Solar Energy, Customer purchase intention, Social media, Theory of planned Behavior

Introduction

People have revered the Sun as the origin of all life on Earth since the beginning of time. The industrial eras educated us about the power of sunshine. Solar energy has a great deal of potential in India. Nearly 5,000 trillion kWh are produced annually across India's geographical area, with the majority of locations receiving 4–7 kWh per square kilometer/m each day (thesolarlabs, 2022). Effective solar photovoltaic power exploitation enables enormous scalability in India. Moreover, solar energy enables distributed power generation and quick capacity expansion. Off-grid, decentralized, and low-temperature applications can help to satisfy additional energy needs for electricity in both rural and urban places, which will benefit rural electrification (thesolarlabs, 2022). Because it is so widely available, solar energy is the most reliable energy source. Theoretically, a small portion of the total solar energy produced—

if efficiently captured—could supply all of the nation's energy requirements.

Energy is an essential player in social and economic development since it contributes significantly to a level of life and technical advancement (Katuwal H. Bohara A., 2009). The Sustainable Development Goal (SDG) still depends on attaining dependable and cheap energy use, much as the Millennium Development Goals (MDGs) were fundamentally tied to energy consumption. [IEA, World Energy Outlook, Paris, France, 2002; P. Mulder and J. Tembe, 2008; World Development Report 2010, Development and Climate Change, Washington, DC, USA, 2010].

The World Bank Group is also planning a number of initiatives in India. Creating solar parks, promoting creative ways to produce and store solar energy, and supporting solar mini-grids are a few of these. With the Bank's support, more private financing will be available, new technologies will be introduced, the capacity for solar rooftop units will be increased, and it will be possible to construct a network of shared infrastructure to support independently built solar parks all throughout India.

India wants to generate 175 GW of renewable energy capacity by 2030, including 100 GW from solar, 60 GW from wind, 10 GW from bio-power, and 5 GW for small hydropower. India now consumes energy at the fourth-highest rate, behind the United States, China, and Russia. This is in accordance with its commitment to the Paris Climate Agreement (Ministry of New and Renewable Energy, 2017). The Remote Village Electrification Plan (RVEP) is being carried out by the Ministry of New and Renewable Energy (MNRE) of the Government of India in all the states.

It's critical to comprehend the numerous elements that influence a solar buyer's desire to buy. Knowing the same will enable suitable legislation, marketing initiatives, and measures aimed at boosting consumer confidence, resulting in more rapid, efficient, and effective adoption of solar energy. The following goals are the focus of this research within the framework of the problem statement:

- To explore the effects of mentioned determinants on customers' buying intentions for solar energy and to analyze and comprehend the many elements influencing those intentions.

In order to evaluate the behavioural models examined in the context of solar technologies, specifically RT solar, this research reviews the relevant literature. After that, it constructs a conceptual research framework or model for the study. Data collected during fieldwork in Lucknow, Greater Noida, Delhi, and Bangalore were submitted to factor analysis and a multiple regression analysis in order to draw conclusions through Smart Pls software and SPSS software.

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Literature Review

TPB and Purchase Intention

The acceptance or rejection of consumers, which is determined by purchase intentions, will have a significant impact on the success of different product categories or services related to renewable energy. An individual's intention could be defined as a strategy, commitment, or decision to engage in a specific action or accomplish a specific objective (Masukujjaman et. al., 2021). Ajzen's TPB states that a person's intention plays a significant impact in engaging in a specific behaviour. Consumer purchase intention is the willingness of a person to purchase a specific good after taking into account a number of factors. (Ajzen, 2011).

TPB has been used to date to forecast consumers' intention and behaviour in a wide range of industries, including energy saving, green hotels, and electric automobiles (Wang, S.Y. et al., 2016), among others (Macovei, 2015). TPB was also thought to be a very effective paradigm for elucidating environmentally friendly behaviour or ecologically sustainable goods (Bamberg, 2003). (Kumar, B. et. al., 2017). For example, Maichum, Parichatnon, and Peng (Maichum, K., et al., 2017) examined Thai consumers' purchase intentions for solar products and confirmed that attitude, subjective norm, and perceived behavioural control had substantial positive influences on such intentions.

It has also been discovered that attitude affects one's intention to use solar energy. The degree to which a person views or evaluates the activity in question favourably or negatively is referred to as their attitude (Ajzen, 1991). According to several studies (Abreu et al., 2019; Jabeen et al., 2019; Kim et al., 2014; Korcaj et al., 2015; Lundheim et al., 2021; Perri et al., 2020; Ru et al., 2018), attitudes frequently predict whether or not individuals would utilize solar power systems.. The relevance of attitude on the desire to embrace renewable energy technology appears to have received significant validation from the body of existing literature. Hence, given its significance, attitude still merits investigation as a key predictor of behavioural intention.

According to Ajzen (1985, 1991, 2008, and 1970), PBC is the feeling of control one has over conditions that could otherwise prevent them from engaging in a behaviour. Based on the idea that people are more likely to engage in a conduct in the future the more control they have over factors that may otherwise prohibit them from doing so, it is important for behaviour prediction. PBC strongly influences the intention to adopt solar energy solutions in Zambian families, according to some studies (Jabeen et al., 2019; Lundheim et al., 2021; Perriet al., 2020; Ru et al., 2018), PBC was determined to have the greatest impact on individuals' intentions to embrace solar energy solutions(Lundheim et al., 2021).

who conducted the study in which PBC was extremely likely to be low. It's possible that groups with low levels of PBC would show little to no influence on behavioural intention whereas those with high levels of PBC would show a strong behavioural intention. The findings by Ru et al. seem to support this argument (2018). In a sample from America where the demographics

predicted that it would be high on PBC, Abreu et al. (2019) showed that PBC did not influence the intention to embrace solar products, refuting this claim.
the impact of PBC on intention to adopt solar energy PBC, however, had no impact on the usage of solar energy, according to Huang et al. (2020),
As a result, the claim that the degree of PBC may be the root of inconsistent findings regarding

solutions only partially explains the results that are still equivocal. In order to determine whether PBC will affect the intention to adopt solar energy solutions in a nation where PBC is anticipated to be low, this study made a contribution.

(H1): Urban customer attitude toward purchasing solar products has a positive effect on purchase intention.
(H2): Perceived behavioral control has a positive effect on purchase intention of solar products.

Inclusion of Additional Constructs in TPB

Performance Expectancy is define to a person's believes in the advantages of using a specific technology towards their work performance. Performance Expectancy (PE) and Purchase Intention (Venkates, V., et. al., 2003). Performance expectancy in this study relates to the conviction that rooftop solar energy will benefit normal life. Moreover, comparable research demonstrated that PE positively affects purchasing intention (Aggarwal, A.K., et. al., 2019). The PE is a measurement about beliefs families have about the use and safety of rooftop solar usage, according to several studies. Numerous research have remarkably demonstrated the contribution of PE to behavioural intention. When PE is promoted as the most effective tool for gaining user acceptance, behavioural studies are seen to bear the imprint of PE even more strongly; this idea has been supported by multiple studies. The PE definition and four questions from are used in the current study to measure PE. Thus, the following hypothesis is made:

H3: Customer attitudes towards the utilization of solar energy have a considerable positive association with performance expectations.

Price and purchase intention-

The price idea takes into account a trade-off between the expenses and benefits of using a particular technology (Dodds, W.B. et. al., 1991). According to (Venkates, V. et al., 2012), the pricing value exhibits a favorable effect when the advantages of employing technology outweigh the associated costs. The following hypothesis was therefore put forth:

H4. Customer attitudes towards solar energy consumption have a considerable positive association with price value (PV).

Government facilities and purchase intention-

Several research indicate that governmental assistance programmes play a significant role in

the markets for solar PV systems. Solar roof top system installation is hampered by high costs, hence capital incentives with lower investment costs are strongly preferred. One of the main forces behind the global adoption of solar PV systems is subsidies and incentives. Financial incentives, government-sponsored programs, and lower investment costs are key drivers of the adoption of solar energy systems.

For example- Sustainable Rooftop Implementation for Solar Transfiguration of India (SRISTI) scheme 2017, Pradhan Mantri Sahaj Bijli har Ghar (PM-SAUBHAGVA) Yojna 2017, Kisan Urja Suraksha Evam Utthaan Mahabhiyan (KUSUM) yojna 2018, Sun One World One Grid' (OSOWOG) plan 2020, and other schemes like Several schemes namely (i) Defence scheme (ii) Central Public Sector Undertakings (CPSUs) scheme (iii) Bundling scheme (iv) Canal bank/ Canal top scheme (v) VGF Scheme (vi) Solar park scheme (vii) Solar rooftops, have been initiated/launched by the Ministry under NSM are under implementation (Anupama Khare Saxena, et.al. ,2020) .

Rai and Mc Andrews discovered that during the past several years, the adoption of roof top solar technology has rapidly increased in the residential sector in numerous states in India as a result of a combination of alluring government and state level financial incentives. In most research, rooftop PV government incentives are discussed in terms of energy policy. In contrast, from the perspective of customer behaviour research, this study interested in how customers evaluate government benefits.

The TPB by Ajzen11 suggests that behavioural intentions are influenced by a person's attitudes about behaviour, subjective norms, and perceived behavioural control. In other words, behavioural intention is directly influenced by perceived behaviour control rather than attitude. Beliefs on the availability of necessary resources and opportunities for engaging in a particular behaviour are referred to as perceived behaviour control. This study explain government benefits as perceived behaviour control, which affects a customer’s behaviour intention (in this case, the intention to install rooftop PV) directly and not through attitudes. Benefits from the government provide financial assistance and motivate consumers to install rooftop PV. As a result, the following hypothesis is presented.

H5: The government’s benefits will positively influence the customer attitude regarding solar energy.

Moderating role of social media-

The study uses social media as a moderating variable to better understand and improve the relationship between pro-environmental behaviour and other elements, such as the consumer's personal responsibility to the environment (Jaini, A,et. al. ,2019).

Media organizations are essential in providing the public with appropriate and correct information to raise awareness of their shared environmental issues (Yu, T.Y.; Yu, T.K.; Chao, 2017. Social media is increasingly being used as a means of communication, interest expression, and information gathering. People from all around the world can communicate with one another and learn where and what is happening. The widespread use of social media affects

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consumer behaviour in addition to individual interests (Wang, T., 2017). Others are influenced to behave similarly by the social justifications for green consumption behaviour put forward by social organizations. Using social media, the general public can easily observe the consequences of environmentally friendly behaviour, inspiring others to take part in environmental initiatives.

Additionally, it has been discovered that social media can enhance self-efficacy and comparison psychology, and that these qualities eventually help to promote pro-environmental behaviour (Grevet, C.; Mankoff, J, 2020) (van Leeuwen, E.; Täuber, S., 2011)(Xu, J.; Han, R, 2019). It was discovered that media outlets directly affect how consumers feel and act about several environmental challenges, including greenhouse gases, energy difficulties, and environmental deterioration (Muralidharan, S., 2016). The effectiveness of digital media in enacting environmental reforms or environmental protection activities or policies is still being studied (Senbel, M, et. al., 2014) (Grainger, M.J.; Stewart, G.B, 2017) (Young, C.W. et .al. 2017), despite the fact that it is quickly becoming a very popular and remarkable medium for direct actions or movements. Electronic word of mouth (e-WOM) has recently been proven to have a moderating effect on pro-environmental behaviour, according to a study (Jaini, A,et. al. ,2019). As a result of the debate above, it may be assumed that:

H6: Social media influences the interaction between government facilities and consumer attitudes towards solar energy in a favorable way.

METHODOLOGY

Because the goal of the research is to evaluate a pretesting theory, the study used a quantitative research approach. Customers that like solar energy and are considering buying solar energy equipment like solar panels filled out a customized version of the questionnaire.

Data collection and Sampling

The main goal of this study was to identify the direct and indirect effects of social media marketing on customers' decisions to buy solar energy. Household consumers and potential customers in the cities of Delhi, Greater Noida, and Lucknow make up the study's population, but its target demographic also includes businesspeople, students, and salaried individuals, among others. The intention is to specifically target consumers who reside in Indian cities where power usage is higher than in other Indian cities.

In order to acquire data from those people who are most suitable for the study, a convenience sampling method of non-probability was chosen as the strategy for the current investigation. Convenience sampling was utilised because survey research requires choosing appropriate sample procedures during data collection to ensure that the necessary number of responses may be acquired. This is due to the fact that it is commonly regarded as the best method for gathering consumer data at a lesser cost, especially when the sampling frame cannot be provided. Also, convenience sampling makes it simple for researchers to contact respondents and deliver

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questionnaires. This sampling technique has also been used in a number of earlier research to gather information from clients in various industries (Guan et al., 2021; Phau &Teah, 2009; Yadav& Pathak, 2016).

Using the Krejcie and Morgan sample method, a sample size of 577 was determined, with a confidence level and error assumption of 95% and 5%, respectively. Finally, 502 full replies were used for the study. Also, the agreement from the research participants was secured before the data collection process began, and the data for this paper were gathered in compliance with ethical principles and norms.

Measurement

The construct measurement items used in the questionnaire that was created for data collection were modified from earlier studies. Seven Likert scales taken from previously published research studies are used to test the variables.

Data analysis techniques

Just 577 respondents filled out and returned the questionnaire, as was discussed in the section above. It was discovered that 502 of these were valid responses that could be used for data analysis. Before beginning the real data analysis, the acquired data were first coded and inspected to find any missing values, and then those values were replaced. Smart PLS software was used in this investigation to estimate the measurement and structural models. In particular, the measurement model was utilised to confirm the accuracy and dependability of the scales. Cronbach's alpha and composite reliability were used to compute reliability, and convergent and discriminant validity were utilised to assess the validity of the instrument. After achieving acceptable values for them, the final structural model was generated in order to verify the projected hypotheses.

Analysis of results

502 valid responses from the participants in this study were collected and considered appropriate for data analysis. Males make up 61 percent of them, while females make up 39 percent, according to the demographic data. Regarding age distribution, the data showed that 36.2 percent of people were under the age of 25, 40.1 percent were in the 26–35 year age range, 24.4 percent were in the 36–46 year range, and just 2.3 percent are over the age of 46. Furthermore, according to the demographic data, 23.7 percent of respondents in this survey had a graduate or postgraduate degree, 7.6 percent had a diploma background, and 67.9 percent had a bachelor's degree. Last but not least, the statistical analysis of the answers revealed that every single one of them uses solar panels for household energy and has some knowledge of solar energy. They employ various electric consumption units up to and including 700. Most responders have monthly incomes between 40,000 and 50,000 rupees.

Under the study of Factor analysis, each variable value study base on KMO and Bartlett’s test which benchmark is above 0.60 and here the value is 0.890 which define all variables under the study were excellent and valid. The principal component analysis showed that factor loadings

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for all items likewise exceeded the necessary value of 0.5, and all diagonal components of the matrix for all variables under consideration were discovered to be more than 0.5.

Table 1 show number of factors like customer attitude, Government facilities, performance expectancy, purchase intention and price etc. with outer loading.

Construct	Item	AT	GF	PBC	PE	PI	PR	SM	SM x GF
Attitude (AT)	**AT1**	0.992							
	AT2	0.981							
	AT3	0.992							
Government Facility(GF)	**GF1**		0.938						
	GF2		0.954						
	GF3		0.930						
	GF4		0.940						
Perceived Behavior control (PBC)	**PBC 1**			0.921					
	PBC 2			0.918					
	PBC 3			0.887					
Performance Expectancy (PE)	**PE1**				0.946				
	PE2				0.961				
	PE3				0.875				
	PE4				0.974				
Purchase Intention (PI)	**PI1**					0.878			
	PI2					0.845			
	PI3					0.862			
	PI4					0.932			
Price (PE)	**PR1**						0.861		
	PR2						0.895		
	PR3						0.859		
	PR4						0.896		
Social Media (SM)	**SM1**							0.912	
	SM2							0.963	
	SM3							0.946	
Social media * Government Facilities	**SM x GF**								1

Table 1: Factor analysis: Outer loading of variables

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Reliability and validity analysis

Table 2 shows the reliability coefficients for the scale items. Cronbach's coefficients for all variables are substantially over the 0.7 cut-off point. The amount of correlation between the variables is computed using Pearson's correlation coefficient, and the value of the correlation coefficient, level of significance, and Discriminant validity are all shown in Table 3. The constructs Purchase intention, customer attitude, government facility, perceived behavior control, price and social media all show strong positive connections and reliable for model.
The measurement model's validity was determined using discriminant and convergent validity (Hair et al. 2014a, 2014b). The composite reliability (CR) and the extracted average variance (AVE) were used to examine convergence validity. This shows how the objects are connected to one another (Erkan and Evans 2016; Fornell and Larcker 1981). Factor loading of all measures and CR of all variables were greater than the suggested threshold values of 0.50, respectively (Hair et al. 2014b; Quoquab et al. 2017). All AVE greater than 0.5 accomplish the Average Variance Extracted (AVE) of the latent variable (Kaffashi and Shamsudin Mad, 2019).

	Cronbach's Alpha	Composite reliability(rho_a)	Composite reliability(rho_c)	Average variance extracted (AVE)
Attitude (AT)	0.988	0.988	0.992	0.977
Government Facility (GF)	0.956	0.957	0.968	0.884
Percieved Behavior Control (PBC)	0.895	0.897	0.934	0.826
Performance Expectance (PE)	0.956	0.965	0.968	0.883
Purchase Intention (PI)	0.902	0.909	0.932	0.774
Price (PR)	0.901	0.91	0.931	0.771
Social Media (SM)	0.934	0.934	0.958	0.884

Table 2: Reliability and validity analysis

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	AT	GF	PBC	PE	PI	PR	SM	SM x GF
AT	0.988							
GF	0.822	0.940						
PBC	0.744	0.731	0.909					
PE	0.912	0.789	0.724	0.940				
PI	0.851	0.776	0.766	0.825	0.880			
PR	0.901	0.776	0.717	0.867	0.817	0.878		
SM	0.693	0.770	0.726	0.702	0.700	0.679	0.940	
SM x GF	-0.893	-0.772	-0.691	-0.821	-0.811	-0.828	-0.699	

Table 3 : Discriminant analysis

Hypothesis testing

Figure 1 and Table 4, show the number of factors which directly affect the customer purchase intention regarding solar panels or products. All the factors of Model; customer attitude ($\beta = 0.360$, $p < .05$), Price ($\beta = 0.259$, $p < .05$), government facilities ($\beta = 0.142$, $p < .05$) directly or indirectly effect the customer attitude and other factors like perceived behavior control ($\beta = 0.297$, $p < .05$) and customer attitude (0.631, $p<0.5$) significantly impacted customer purchase intention of solar panels, another factor social media use as moderate factor between government facility and customer attitude. These all factors provided support to the hypotheses H1, H2, H3, H4, H5 and H6, respectively.

Model 1- this model justify the impact of independent variable like performance expectancy of solar panels (PE1,2,3), PR(PR1, 2,3,4), Government facilities or subsidy(GF1,2,3,4), customer attitude regarding products (AT 1,2,3) perceived behavior control(PBC1,2,3), Social media (SM1,2,3) fully impact on customer Purchase intention (PI 1,2,3,4), It define with P values, outer loading value and R^2 value . This model define the Performance expectancy, Price and government facility directly impact customer attitude regarding solar products, it also define the role social media when government already provide number of facilities in solar products. Perceived behavior control and attitude directly impact of customer purchase intention. This model also discuss number of indirect effects of these variables in customer purchase intention. So Hypothesis H1 which indicate the positive influence of customer attitude towards solar energy purchase intention, H2 indicate positive influence of perceived behavior control towards purchase intention, H3 indicate positive influence of perceived benefits towards customer attitude regarding solar energy, H4 indicate positive influence of price towards customer attitude, H5 indicate positive influence government facility to customer attitude and H6 indicate moderate role of social media to aware about government facility to make customer attitude for solar energy. These all are hypothesis accept and support to this model.

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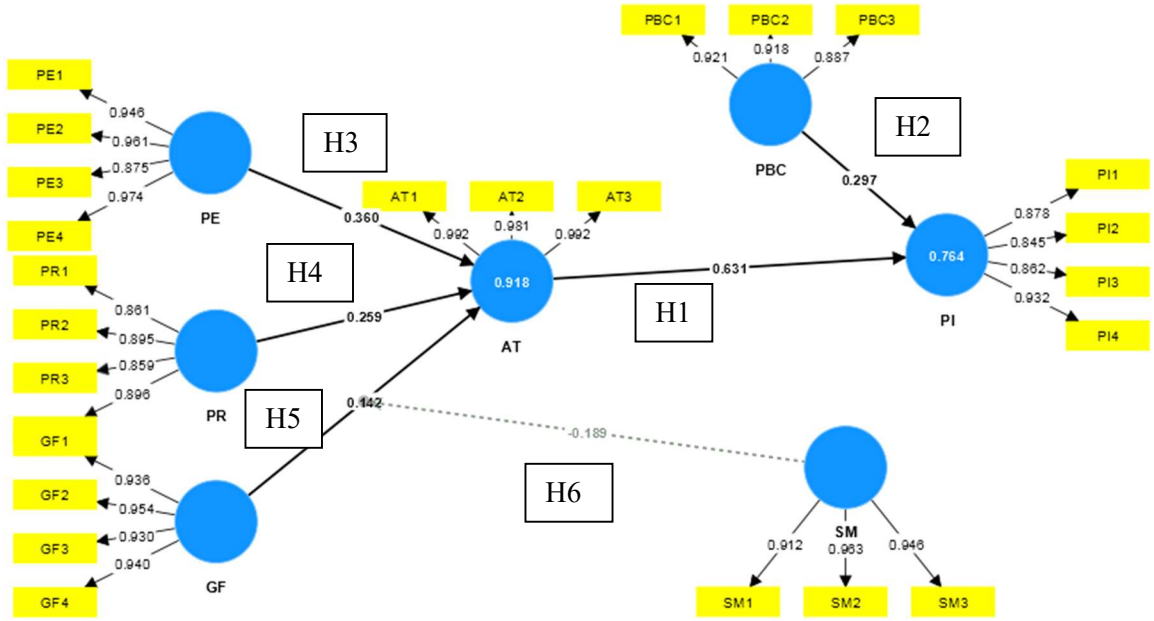

Fig1: Model analysis

Apart from the hypothesis some other direct and indirect effect show table 4 and 6. This indicate the role of government facility which did not directly affect the customer attitude and customer purchase intention due to some reason but when social media include between these two factors it directly impact to customer attitude and purchase intention regarding solar panels. This is also indicating the importance of social media and customer knowledge regarding solar products which directly depend on social media.

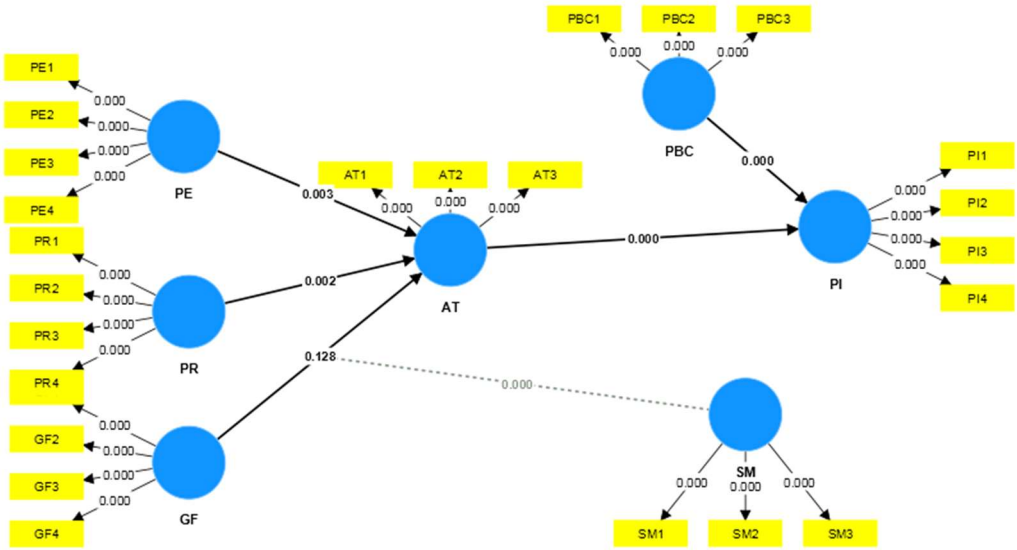

Fig2: P-value analysis

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This analysis also indicate the role of government here , people always concern that which type of plans and facilities government make for the customer when they purchase solar products and mostly customers gain this type of information through social media. So importance of government and social media both are define in this analysis.

Hypothesis	Variable	original sample(O)	Sample means(M)	Standard Deviation (STDEV)	T statistics(O/STDEV)	P values	Result
H1	AT>PI	0.631	0.627	0.09	7.023	0.0000	Support
H5	GF>AT	0.142	0.121	0.093	1.521	0.1280	Reject
	GF>PI	0.09	0.075	0.059	1.529	0.1260	Reject
H2	PBC>PI	0.297	0.298	0.08	3.690	0.0000	Support
H3	PE>AT	0.36	0.369	0.121	2.973	0.0030	Support
	PE>PI	0.277	0.23	0.078	2.90	0.0040	Support
H4	PR>AT	0.259	0.255	0.084	3.07	0.0020	Support
	PR>PI	0.163	0.16	0.059	2.772	0.0060	Support
	SM>AT	-0.071	-0.058	0.065	1.079	0.2810	Reject
	SM>PI	-0.045	-0.034	0.04	1.122	0.2620	Reject
	SMXGF>AT	-0.189	-0.189	0.052	3.607	0.0000	Support
H6	SMXGF>PI	-0.119	-0.119	0.038	3.121	0.0020	Support

Table 4: Direct Effect Result analysis (Variable impact to customer attitude and Purchase intention)

This table illustrates the direct impact of all variables on consumer perceptions of and intentions for purchasing solar energy. Here, red color P values indicate rejection of the hypothesis that

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government facilities directly do not affect consumer attitudes and purchase intentions in urban areas for a variety of reasons, just as social media promotion of solar energy does not directly affect consumer attitudes and purchase intentions. Green color P values define the support of all the hypotheses that we define in the literature review.

Value of R Squared

A measure of how much of the variation in the value of the affected variable can be accounted for by the variable influencing it is called R square (R^2). The adjusted R square (adjusted R^2) is employed when a study has more than two independent variables. The value of r square adjusted is always less than the value of r square. Here R square of both factors customer attitude (AT) and Customer Purchase intention (PI) represent substance of model is strong.

	R-square	R-square adjusted
AT	0.918	0.914
PI	0.764	0.759

Table 5: R square analysis

Model validity

This table7 provide the statistical measurement for the model fit with the mathematical representation of the research is SRMR value which is 0.54, with NFI value 0.905, which justify the above given model a good fit. (Pineda et al., 2021)

Parameter	Fit recommendation	Estimated model achieved
SRMR	<0.080	0.54
NFI	>0.90	0.90
RMS Theta	<0.12	0.09

Table 7: Model fit table

Variable	original sample(O)	Sample means(M)	Standard Deviation (STDEV)	T statistics(O/STDEV)	P values	Result
SMXGF>AT>PI	-0.119	-0.119	0.038	3.121	0.0020	Support
GF>AT>PI	0.09	0.075	0.059	1.529	0.126	Reject
PE>AT>PI	0.227	0.23	0.078	2.9	0.0040	Support
PR>AT>PI	0.163	0.16	0.059	2.772	0.006	Suppor

					0	t
SM>AT>PI	-0.045	-0.034	0.04	1.122	0.2620	Reject

Table 6: Indirect effect analysis

This table also explains how social media works with government institutions and how that connects with consumer attitudes and solar product purchasing intentions. This outcome also demonstrates that without the involvement of the government, social media has no influence on consumer purchase intentions; this may be due to consumer distrust or the high cost of solar items.

Conclusion and suggestions-

This paper's main objective is to pinpoint the variables that have a direct impact on Indian urban consumers' decision to buy solar panels. The relationship between consumer attitude and purchase intention is influenced by a number of factors, including performance expectations, customer attitudes, price, and government facilities. This paper also discusses how social media has affected customer attitude and how people see government services and subsidies in term of facilities. The characteristics were evaluated for their importance in predicting the desire to purchase solar energy products using multiple linear regression analysis. The study also makes comments on several results that seem to be contradictory.

The strongest factor influencing a person's decision to accept solar energy solutions was their attitude about those options. Therefore, customers are more likely to have adoption intentions when they have a good attitude about solar energy alternatives. This agrees with the TPB and numerous other research (Abreu et al., 2019; Jabeen et al., 2019; Kim et al., 2014; Korcaj et al., 2015; Lundheim et al., 2021; Perri et al., 2020; Ru et al., 2018).

According to the study, in India, attitudes regarding solar energy products are the most significant predictors of the desire to accept or purchase solar panels, and this predictor has been influenced by the cost, availability of public infrastructure, and expected performance of solar panels. Customers frequently inquire about government subsidies, discounts, and government loans when using public services, and this is a key indicator of their attitudes.
Because solar energy base equipment is so expensive in India due to technology, production, and other factors, it is difficult for Indian customers to accept and use solar products directly. Price is another factor that directly influences customer attitude.

Another important factor that directly affects customer expectations of solar panels is performance expectancy. This factor also depends on how much the customer knows about solar products, how to use them, and how long they last. Without technical expertise and post-sale services, the customer cannot predict or expect the performance of solar products. Due to government interference, many businesses offer a number of years of warranties on their solar products, but customers are hesitant or do not put their trust in these products. Therefore, it is

imperative that businesses and the government provide all pertinent information about solar energy so that consumers will put their trust in these products. Therefore, if the adoption of solar energy solutions is to increase, more focus should be placed on changing people's attitudes regarding solar energy solutions. In positioned to focus on the significance of benefits and trust on the desire to purchase solar panels, it is also important to use powerful individuals in society while marketing solar energy solutions.

The study also explains the social media's moderating role in influencing consumer attitudes. Social media always highlights the level of government support and the types of benefits offered for the installation of solar energy equipment, but their marketing never increases consumer trust or awareness of solar energy's advantages. Therefore, the business and government must work to increase awareness and confidence in solar products. This report also explains why it is impossible to change consumers' attitudes toward green energy without the usage of social media.

PBC has a negligible impact on consumer intentions to purchase solar products. This means that people's intentions are influenced by the degree of control they believe they have over real or imagined barriers to buying solar items. The finding does not seem to support the claim that people with poor PBC will have low buying intentions.

Government agencies responsible with promoting solar energy adoption as well as business organizations and groups involved in providing solar energy solutions can start these initiatives. Due to the fact that most SSA nations and developing nations in general frequently experience very similar conditions, such as acute power shortages that result in load-shedding, these solutions are applicable to the majority of developing nations.

Limitation of Study

The results are nevertheless subject to some limitations. The study simply collected data from those

persons who had access to email or mobile devices, which is the most significant factor. The results are consequently somewhat biassed in favour of more wealthy people in a nation that i s otherwise low income.

Moreover, the results lack external validity and may not be generalizable to India's bigger pop ulation. So, it is advised to use caution when following the directions. Future research can foc us on finding the underlying causes of the inconsistencies between the results in the published literature

such as the impact of cost and the goal of using solar energy in government buildings, in addit ion to eliminating the restrictions.

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