

# Influence of Social Media on Post-Purchase Dissonance : An Empirical Study

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## Abstract

**Purpose :** Post-purchase dissonance refers to a customer's dissatisfaction after buying a product or service. This study focused on the role of social media in influencing customer dissonance. The growing online purchases and product returns due to dissatisfaction have increased the importance of post-purchase dissonance. This fact induced us to undertake this study.

**Methodology :** The data for this study were collected online via a questionnaire using Google Forms. We prepared the questionnaire after carefully reviewing the extant literature. Eight items were adopted from the scale developed by Sweeney et al. (2000). Using R software, multiple regression models were used to analyze the data and test the hypotheses. Finally, a structural equation model was developed to establish the model fit.

**Findings :** In this study, we found that online purchases by themselves alone did not result in post-purchase dissonance. However, social media has been found to have a significant moderating role in precipitating dissonance.

**Practical Implications :** The findings of this study are both important and straightforward. Firms should closely monitor social media. Social media can easily sway the cognitive balance that the customers may have reached before making a purchase. With the increased social media usage to check for products before purchases (Mason et al., 2021), it has become all the more important for firms to keep a close watch on social media.

**Originality :** The study's originality lies in the fact that the study considered the role of social media, particularly in online purchases.

**Keywords :** post-purchase dissonance, online purchase, social media, cognitive balance, returns

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Post-purchase dissonance (PPD) is a phenomenon that occurs after making a purchase; a customer sometimes feels cognitively disturbed about the purchase. It happens when two or more conflicting ideas, beliefs, values, or emotional reactions appear or when one comes across information contrary to his/her beliefs. This unpleasant feeling negatively affects the well-being and behavior of that person. This phenomenon is not new, but it has gained attention due to increased online buying behavior (Kim et al., 2013). For example, in the US, of the people who made online purchases, 82% said they regretted the purchases (Boyarsky, 2021). Can online

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buying alone be attributed to dissonance or something more to it? With the increase in internet access, including amongst the rural population (Indu et al., 2022) and the high level of products returned after purchase in India (Kar et al., 2022), one is inclined to wonder if social media has any role in PPD.

Social media is an internet-based medium; hence, it has deep penetration as the internet itself. We have estimated that 3.8 billion people out of 7.9 billion (world population at the time of writing this article – source: World Population Clock) use social media (Kemp, 2021), that is, about 48% of the population. Further, the spread of friendly and easy-to-use web technologies, such as media sharing platforms, has empowered social media to generate user content and publish their opinions. Thus, it has become an essential communication tool for company-to-consumer message delivery (Tsimonis et al., 2020). This powerful communication tool can be a boon or a bane for firms. Social media (SM) has become important because while it opens up opportunities to reach many targeted consumers, it also enables consumers to generate positive or negative information about a firm or product with an equally broad reach. Firms can gamify their presentations online; this has a marked influence on the user's engagement and increases brand engagement and brand loyalty (Srivastava & Fernandes, 2022). On the other side, dated studies have confirmed that negative word-of-mouth (WOM) has a more significant impact on the receiver than positive ones (Yang & Cho, 2000). Hence, the necessity to understand the part played by the SM in PPD.

Despite a large amount of literature on social media and its effects on people, buying and buying-decision making, and businesses, there is no data on its impact on PPD. A literature search yielded no article on the role of SM on PPD. Hence, there is no clear understanding of the role of SM in PPD. This study attempts to fill this gap in our literature and enhance our understanding of SM and its effects. Further, because of increased online buying and high product returns by shoppers, there is an urgent need to understand if PPD causes the products to be returned. The high product returns make this research essential and the need of the hour.

## **Literature Review**

### ***Post-Purchase Dissonance***

The convergence of technologies has led to the emergence of SM, mobile, and similar devices, which presents new challenges and opportunities for marketing. The above situation has altered how customers interact with brands (Swaminathan et al., 2020). Customers' buying journey is no more a simple and straight path (Lee et al., 2018). Marketing continues after the customer buys. It is all about meeting the customers' needs successfully. Successfully meeting needs implies that customers are satisfied with the product after purchasing it. A satisfied customer goes on to become a loyal customer (Mahadevan & Joshi, 2022).

Two post-purchase reactions are possible as intuited and recognized in consumer behavior models. They are — one, satisfaction (when the product meets the customer's expectation) and, two, dissatisfaction or post-purchase dissonance or discontent (when the product is perceived not to meet the expectations or there are doubts about the purchase and purchasing process). PPD precedes the feeling of dissatisfaction (Olejniczak, 2017).

Consumer decision-making has increasingly become a challenge with the proliferation of businesses and brands. The presence of many brands and choices within a brand creates a situation where they cannot decide unambiguously. This phenomenon is known as decision paralysis (also choice paralysis or analysis paralysis). Marketers present many alternatives to the customers because they believe that the higher the choice, the greater the satisfaction. However, researchers and psychologists like Sheena Iyengar and Mark Lepper disagree with this belief. Barry Schwartz, a psychology professor, says, "People do not make decisions based on what is the most important, but based on what is the easiest to evaluate." Too many choices may make consumers mentally

uncomfortable, and their decision is accompanied by some degree of anxiety (Olejniczak, 2017). The mental state can easily be disturbed and brought about by many factors. Some of them could be noticing some disturbing features in the product purchased or learning a favorable thing or things about other brands. These factors of PPD can apply to any offerings made by marketers.

Since several processes work on how our knowledge and judgments are built up, making them delicate and fragile, so is cognitive dissonance. It has been shown that the causative factors can be grouped broadly into one, general characteristics, such as personality traits of anxiety and self-confidence which are chronic, and two, the feelings toward a purchase situation, such as the then state of anxiety and self-confidence at that moment, which are temporary. The temporary ones play an essential role by mediating chronic characteristics and post-purchase dissonance (Keng & Liao, 2013).

Sometime earlier, in 1997, to be precise, Wharton Forum on Electronic Commerce sponsored a research project called the Wharton Virtual Test Market (WVTM) to identify the factors influencing online shopping. One relevant finding of this study is that “a typical online buyer has a “wired” lifestyle.” This means that these people spend most of their time and do many things on the internet, such as work in their offices, send and receive emails, and read the news at home. The longer they stay online, the greater are their purchase intentions (Siji, 2021). Online shopping intention, particularly among the millennials’ is also influenced by trust and e-service quality (Bulsara & Vaghela, 2022; Siddiqui & Siddiqui, 2021).

Further, it can be deduced that these people will also read or come across reviews of the products they may have purchased. The possibility exists for these reviews on the Internet/social media, particularly negative ones, to upset the cognitive balance that the customers may have reached before purchase. This may lead to dissonance.

## ***Social Media***

Social media (SM) is a group of computer applications utilizing Web 2.0 technologies using the Internet (Kaplan & Haenlein, 2010). It comprises numerous online platforms. Although most SM appeared after 2000, it offers business opportunities to be different and unique (Dahnil et al., 2014). The extant literature is still sparse on its impact on society and business. Therefore, its use as a business platform is a popular topic of study. There are several possible reasons for people to use SM. Kietzmann et al. (2011) developed a framework known as a honeycomb, wherein they included identity, conversations, sharing, presence, relationships, reputation, and groups as motives for sharing information on SM. Scholars such as Ngai et al. (2015) and Azemi et al. (2019) have used this framework to study SM as it helps in examining the different functions of SM (Effing & Spil, 2016).

We also now know that SM satisfies three types of needs (Currás-Pérez et al., 2013):

- ✧ Functional needs (to carry out certain activities),
- ✧ Social needs (willingness to provide help and support, exchange ideas, etc.), and
- ✧ Psychological needs (belonging to a community, membership, etc.).

Due to the above utilities, about 48% of the world’s population uses SM (Kemp, 2021). A second factor, i.e., social needs, influences people’s adoption of SM (Yang & Forney, 2013). Further, the degree of SM adoption positively affects consumer engagement and sales (Al Mamun et al., 2020). Social media strongly influences brand equity, impacting customers’ purchase responses (Menon, 2021; Siji, 2021; Singh & Dagur, 2022). Therefore, SM can potentially modify peoples’ attitudes, and a negative comment will impact the reader (Lee et al., 2008) and disturb the delicate cognitive balance post-purchase causing PPD. A study by Hsu and Lu (2004) also confirmed that SM influences people’s attitudes. Further, the importance of PPD rests on the fact that it decreases the concerned person’s repurchase intention (Keng & Liao, 2013).

## Research Hypotheses

### *Online Purchases*

The growth of e-commerce, propelled by newer technologies, has increased online buying, particularly impulsively (Chan et al., 2017). Since online purchases can be made anywhere, anytime, and in private, scholars believe online shopping is now more conducive to planned buying. Because of the absence of any time, spatial, or social constraints or distractions, one may expect that online buying would be done with due diligence. However, researchers have found ample scope for impulsive buying on this platform (Verhagen & van Dolen, 2011).

Impulse buying involves strong emotions and hedonic experiences (Sharma et al., 2010), and they both are related to sensory stimulation (Krishna, 2012). Further, cognitive dissonance, though cognitive, has emotional dimensions to it (Elliot & Devine, 1994). Hence, when emotions sway people, and they make an online purchase, they are likely to experience dissonance after the purchase. Therefore, we expect that online buying offers a broad scope for impulsive buying, which may lead to PPD. Thus, the first hypothesis to be tested is :

🔗 **H1.** There is a relationship between online purchases and the degree of PPD.

### *Impact of Social Media*

The importance of SM has grown in the past decade (Quadros, 2020), so much so that consumers tend to believe information shared on the SM more than those shared by firms. Also, it has impacted the consumers' consumption habits. Increasingly, consumers now use SM to choose a product, check it out, and make a purchase decision (Aydin et al., 2021; Mason et al., 2021). Besides the spread of the internet, the availability of low-cost smartphones, and low internet rates has made it possible for people in lower-income groups to access online purchases (Tabeck & Singh, 2022). This is also reflected by the growing popularity of online buying apps (Chakraborty & Altekari, 2021). All this has made social media the second-largest digital market globally (Jacobson et al., 2020). Hence, firms use it to their advantage since customer conversations allow them to build brands and increase their awareness, recognition, and recall (Gunelius, 2011).

However, there is another side to SM. It is also a platform for spreading misinformation (Acemoğlu & Ozdaglar, 2021). Furthermore, what is worrying is that falsehoods diffuse significantly farther, faster, deeper, and more broadly than the truth in all categories of information (Vosoughi et al., 2018). When a person conveys false information, thinking it is true, it is misinformation. However, it is termed disinformation when this is done intentionally to mislead. Nevertheless, when factual information is intended to harm a person or an entity, it is called mal-information (Deka, 2021). Sharing wrong information, however, is not very common due to the fear of being found out by others, which can damage one's reputation and may lower his or her social status in the eyes of peers (Altay et al., 2022).

Given the above discussion, we expect that SM has ample scope to create PPD in customers. Thus, the second hypothesis is :

🔗 **H2.** SM impacts the degree of PPD.

### *Gender*

Gender plays a vital role in consumer behavior. Many scholars have shown that the intentions to use SM vary among the genders. More than men, women are mainly driven by the desire to maintain close social ties and have a positive attitude toward what is shared in SM (Krasnova et al., 2017). It has also been found that sharing

information and the intention to do so differ among genders (Lin & Wang, 2020). A study showed that SM often influences women's decisions more than men's (Karatsoli & Nathanail, 2020). A recent study shows that among adolescents in the US and UK, girls spend more time on SM than boys (Twenge & Martin, 2020). Research has also found that personal characteristics such as gender and age impact the use of SM (Ali Taha et al., 2021).

Studies have shown gender differences in attitude formation and the effects of perceived value and satisfaction of on-campus food service attributes (Kwun, 2011). Men and women also differed in how mental imagery influences in-store decision-making (Kim et al., 2021). In another study, gender differences were noticed in how word-of-mouth recommendations influenced them (Asada & Ko, 2019). Therefore, our third hypothesis is :

🔗 **H3.** Gender impacts the degree of PPD.

### Age

As one grows and matures, some changes, particularly in the cognition process, alter the performance of cognitive tasks (Murman, 2015). Hence, we were interested in knowing the moderation effect of age on PPD. Therefore, the fourth hypothesis is :

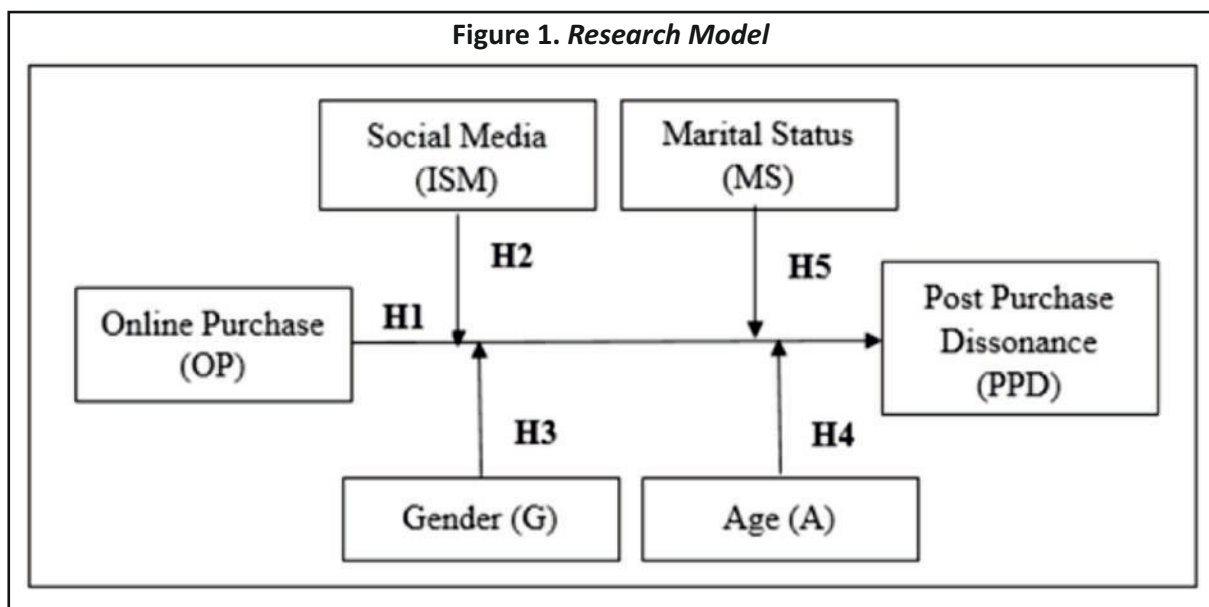
🔗 **H4.** Age impacts the degree of PPD.

### Marital Status

It has been shown that marital status affects the quality of life, and single men have a significantly worse quality of life than married men. In contrast, single women have a significantly better quality of life than married or divorced/separated women (Han et al., 2014). The fifth hypothesis is :

🔗 **H5.** Marital status impacts the degree of PPD.

The proposed research model is presented in Figure 1, in which the hypotheses are developed between the variables of interest.



## Research Method

We conducted exploratory research by treating Indian consumers as the population. Since India is a country with a large population with lots of diversity in behavior, habits, customs, languages, and the living environment, the results are generalizable. A questionnaire was developed by reviewing the literature and choosing the constructs used in earlier studies. Eight items were adopted from the scale of Sweeney et al. (2000) to measure post-purchase dissonance. The other constructs were modified versions of similar items from the scales in literature with established reliability. However, the reliability of the dimensions was once again determined for this study and is shown in Table 3. A 5-point Likert scale (*strongly disagree* to *strongly agree*) was used throughout the questionnaire. The data were collected randomly across India from October 10, 2021 – January 08, 2022. Two hundred thirty-two responses were collected, and after cleaning, 219 responses were selected for analysis as they were complete in all respects; 13 responses were discarded.

R-program was used to check the validity, reliability, and moderation effect of (a) SM, (b) gender, (c) age, and (d) marital status. First, the sample size was examined. The independent variables are : (a) gender, (b) the impact of SM (6 questions), (c) age, (d) marital status, and (e) online purchase (one question), and the dependent variable is (f) PPD (8 questions). Experts believe the minimum sample size is 10 cases for every parameter to be estimated (Kline, 2016). There are one dependent and five independent variables, that is, six variables in all. Considering six questions for the impact of SM and eight questions for PPD, we may consider 18 parameters to be estimated. So, the minimum sample size requirement would be 180, a figure surpassed by our sample of 219.

Further, G Power was used to calculate the sample size. Choosing a power at 0.95 ( $\alpha$  error probability is 0.05), the *F*-test predicted a sample size of 138. The effect size of  $f^2$  is 0.15. Once again, for a power of 0.95, the sample size of 219 is adequate. Additionally, as the data would be subjected to structural equation modeling (SEM), Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were performed. Table 1 shows the results and their interpretation.

Also, simple and multiple linear regression will test the hypotheses and moderating effects. To perform the above tests on the data, they need to satisfy four assumptions associated with a linear regression model, which are (a) linearity, (b) independence, (c) normality, and (d) homoscedasticity.

The data satisfy all the above conditions (see the diagnostic plots in Figure 2). The data consisted of 120 men (55%), 97 women (44%), and two people (1%) who did not wish to say their gender. The average age of the respondents was 29 years. Table 2 shows the demographic profile of the respondents.

**Table 1. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test and Interpretation**

Name of the Test		Value	Interpretation
KMO Measure of Sampling Adequacy		0.89	Meritorious
Bartlett's Test of Sphericity	Approx. chi-square	1148.729	Significant
	<i>df</i>	91	
	Significance	1.33476e-182	

**Table 2. Demographic Profile of the Respondents**

Variable	Description	Frequency (n=219)	Frequency Percentage
Gender	Males	120	55%
	Females	97	44%
	Did not wish to say	2	2%



Age	18 – 23 years old	37	17%
	24 – 30 years old	137	63%
	31 – 40 years old	27	12%
	41 – 50 years old	10	5%
	51 – 60 years old	3	1%
	More than 60 years	5	2%
Employment Status	Student	36	16%
	Unemployed	28	13%
	Working	150	68%
	Retired	5	2%
Area of Residence	Urban area	147	67%
	Sub-Urban area	45	21%
	Rural area part	27	12%
Marital Status	Single	153	70%
	Married	66	30%

## Data Analysis and Results

The factors examined in this study, as mentioned earlier, are (a) gender, (b) the impact of SM, (c) age, (d) marital status, (e) online purchase, and the dependent variable (f) PPD. The validity and reliability of the measurement of the factors : (a) impact of SM and (b) PPD were calculated. Table 3 shows the mean, standard deviation (*SD*), and Cronbach's alpha. The other four are either categorical or had only one variable, so Cronbach's alpha was not calculated.

**Table 3. Mean, Standard Deviation (*SD*), and Cronbach's Alpha of the Variables**

Variable	Details	Mean	Standard Deviation	Cronbach's Alpha
After I bought this product, I wondered if I really needed this product ( <i>PPD1</i> ).	Post-Purchase Dissonance ( <i>PPD</i> )	2.73	1.17	0.82
After I bought this product, I wondered whether there was something wrong with the deal I got ( <i>PPD2</i> ).		2.75	1.12	
After I bought this product, I wondered whether I should have bought anything at all ( <i>PPD3</i> ).		2.70	1.19	
After I bought this product, I felt disappointed with myself ( <i>PPD4</i> ).		2.51	1.22	
After I bought this product, I felt furious with myself ( <i>PPD5</i> ).		2.29	1.07	
After I bought this product, I doubted my wisdom of purchase ( <i>PPD6</i> ).		2.49	1.11	
After I bought this product, I wondered if I had made the right choice ( <i>PPD7</i> ).		2.65	1.27	
After I bought this product, I wondered if I had been fooled ( <i>PPD8</i> ).		2.53	1.21	
SM made me feel bad ( <i>ISM1</i> ).	Impact of SM	2.49	1.17	0.84
SM made me feel doubtful or less confident ( <i>ISM2</i> ).		2.68	1.20	

SM made me feel good ( <i>ISM3</i> ).		2.63	1.13
SM made me feel less frustrated ( <i>ISM4</i> ).		2.47	1.11
SM made me feel I have made the right choice ( <i>ISM5</i> ).		2.84	1.13
SM made me feel confident ( <i>ISM6</i> ).		2.74	1.15
Gender	Gender	Categorical	
Online Purchase	Online Purchase	Categorical	
Age	Age	Single Continuous	
Marital Status	Marital Status	Categorical	

## Regression Analyses

A series of multiple regression models were used to analyze the data and test the hypotheses. As Baron and Kenny (1986) suggested, regression was done sequentially. In the first set, PPD was regressed on online purchase (OP) (model 1.1). Next, PPD was regressed on online purchases and SM (model 1.2). To determine the effect (moderation or mediation) of SM, SM was regressed on OP (model 1.3), and finally, PPD was regressed on both OP and SM (model 1.4). The results and interpretations are shown in Table 4.

**Table 4. Regression Estimates of the First Set of Models**

<b>Model 1.1</b>						
<b>Coefficients</b>	<b>Estimate</b>	<b>Std. Error</b>	<b>t value</b>	<b>Pr(&gt; t )</b>	<b>Significance<sup>†</sup></b>	<b>Interpretation</b>
Intercept	2.7877	0.1813	15.380	<2e-16	***	OP not significant.
OP	-0.1296	0.1082	-1.199	0.232		
Residual standard error: 0.7833 on 217 degrees of freedom.						
Multiple <i>R</i> -squared: 0.006576, Adjusted <i>R</i> -squared: 0.001998						
<i>F</i> -statistic: 1.436 on 1 and 217 <i>DF</i> , <i>p</i> -value: 0.232						
<b>Model 1.2</b>						
Intercept	0.98821	0.13180	7.498	1.64e-12	***	SM has a significant impact on PPD.
ISM	0.60222	0.04748	12.682	< 2e-16	***	
Residual standard error: 0.5955 on 217 degrees of freedom.						
Multiple <i>R</i> -squared: 0.4257, Adjusted <i>R</i> -squared: 0.423						
<i>F</i> -statistic: 160.8 on 1 and 217 <i>DF</i> , <i>p</i> -value: < 2.2e-16						
<b>Model 1.3</b>						
Intercept	2.8790	0.1963	14.666	<2e-16	***	OP is not significant.
OP	-0.1472	0.1171	-1.257	0.21		
Residual standard error: 0.8483 on 217 degrees of freedom.						
Multiple <i>R</i> -squared: 0.007224, Adjusted <i>R</i> -squared: 0.002649						
<i>F</i> -statistic: 1.579 on 1 and 217 <i>DF</i> , <i>p</i> -value: 0.2103						
<sup>†</sup> Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1						
<b>Model 1.4</b>						
Intercept	1.9968	0.4410	4.528	9.86e-06	***	The moderation effect



of SM is significant.

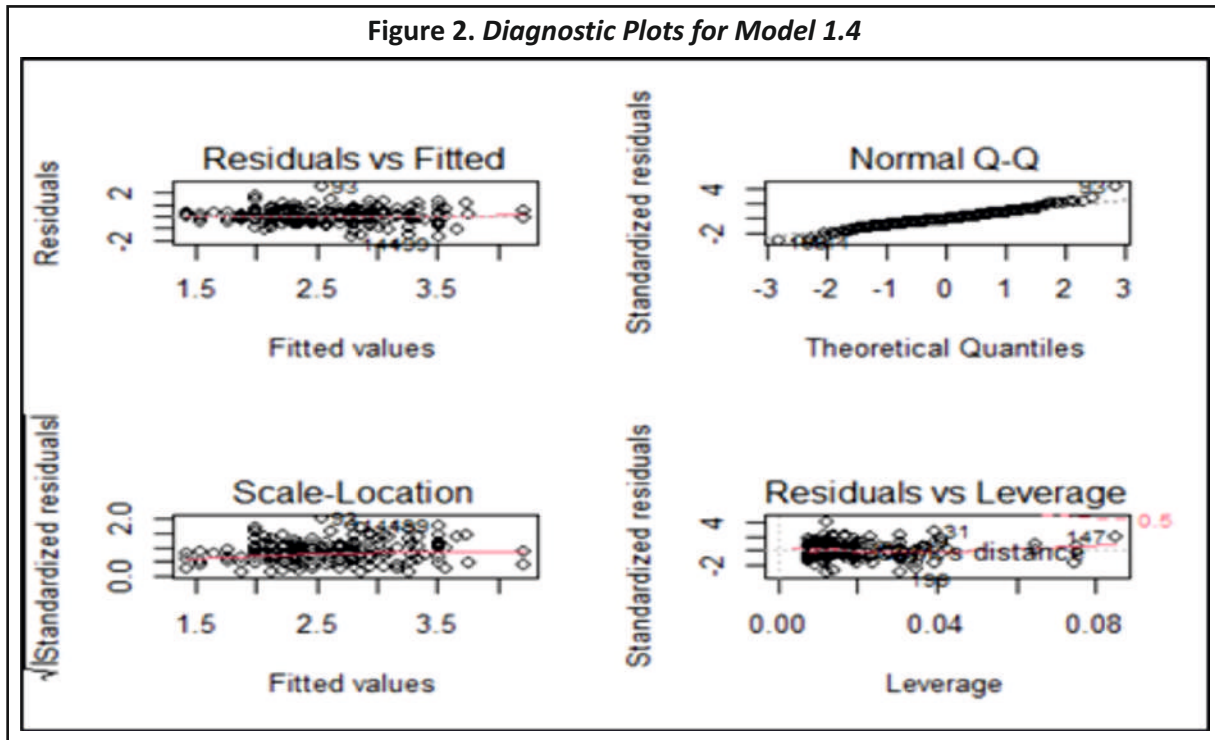
OP	-0.6397	0.2662	-2.403	0.0171	*
ISM	0.2518	0.1549	1.626	0.1055	
OP: ISM	0.2245	0.0950	2.363	0.0190	*

Residual standard error: 0.5903 on 215 degrees of freedom.

Multiple *R*-squared: 0.4409, Adjusted *R*-squared: 0.4331

*F*-statistic: 56.51 on 3 and 215 *DF*, *p*-value: < 2.2e-16

\* Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1



The diagnostic plots for the significant model 1.4 are shown in Figure 2. A good model data meets the regression assumptions very well. The flat horizontal line in the residuals vs. fitted plot in Figure 2 shows the linear relationship explained by the model. The Normal Q-Q plot shows that the residuals are normally distributed. The straight horizontal in the scale-location plot demonstrates that our assumption of equal variance (homoscedasticity) is valid. The residuals vs. leverage plots show if any influential cases could alter the linear regression results, if excluded. In the plot, Cook's distance line (a dashed line) is hardly seen because all cases are well inside Cook's distance lines; hence, there is no influential case or cases.

Next, PPD was regressed on gender. Gender being a categorical variable, they were tested using ANOVA. The results are shown in Table 5.

PPD was regressed on both OP and age (model 2.1). The results are shown in Table 6. Finally, PPD was regressed on both OP and marital status (model 2.2). The results and interpretations are summarized in Table 7.

Table 8 summarizes the findings and the impact on the hypotheses. The above results are confirmed by the structural equation modeling (output of R-programme) shown in Figure 3.

**Table 5. Analysis of Variance Between the Genders**

Model 1: PPD ~ fem						Interpretation
Model 2: PPD ~ males						
Model	Res. Df	RSS	Df	Sum of Sq	F	Pr(>F)
1	217	133.57				Gender difference is not significant.
2	218	134.01	-1	-0.44001	0.7149	0.3988

**Table 6. Regression Estimates of the Model 2.1**

Model 2.1						
Coefficients	Estimate	Std. Error	t value	Pr(> t )	Significance <sup>†</sup>	Interpretation
Intercept	2.7460415	0.7227472	3.799	0.000189	***	The moderation effect of age is not significant.
OP	-0.1088845	0.4124815	-0.264	0.792053		
Age	0.0014639	0.0245363	0.060	0.952481		
OP: Age	-0.0007296	0.0138995	-0.052	0.958187		

Residual standard error: 0.7869 on 215 degrees of freedom.

Multiple R-squared: 0.006594, Adjusted R-squared: -0.007267

F-statistic: 0.4757 on 3 and 215 DF, p-value: 0.6995

<sup>†</sup> Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

**Table 7. Regression Estimates of the Model 2.2**

Model 1: PPD ~ singles						Interpretation
Model 2: PPD ~ married						
Model	Res. Df	RSS	Df	Sum of Sq	F	Pr(>F)
1	217	133.84				Marital status has no significance.
2	218	134.01	-1	-0.16688	0.2706	0.6035

**Table 8. Summary of Hypotheses's Status from the Regression Models**

	Hypotheses	Coefficients	p-values	Hypothesis Test	Moderation Effect
H1	There is a relationship between online purchases and the degree of PPD.	-0.1296	0.232	Not supported	Not applicable
H2	SM impacts the degree of PPD.	0.60222	< 2e-16	Supported	Present
H3	Gender impacts the degree of PPD.	-	0.3988	Not supported	Absent
H4	Age impacts the degree of PPD.	0.0014639	0.952481	Not supported	Absent
H5	Marital status impacts the degree of PPD.	-	0.6035	Not supported	Absent

Table 9 shows the weights of the path along with SE and z-value. Only the influence of SM (ISM) on cognitive dissonance (CD), i.e., PPD, is significant. The other paths are not significant. The other fit indices are shown in Tables 10 and 11.

Figure 3. Structural Equation Model of PPD

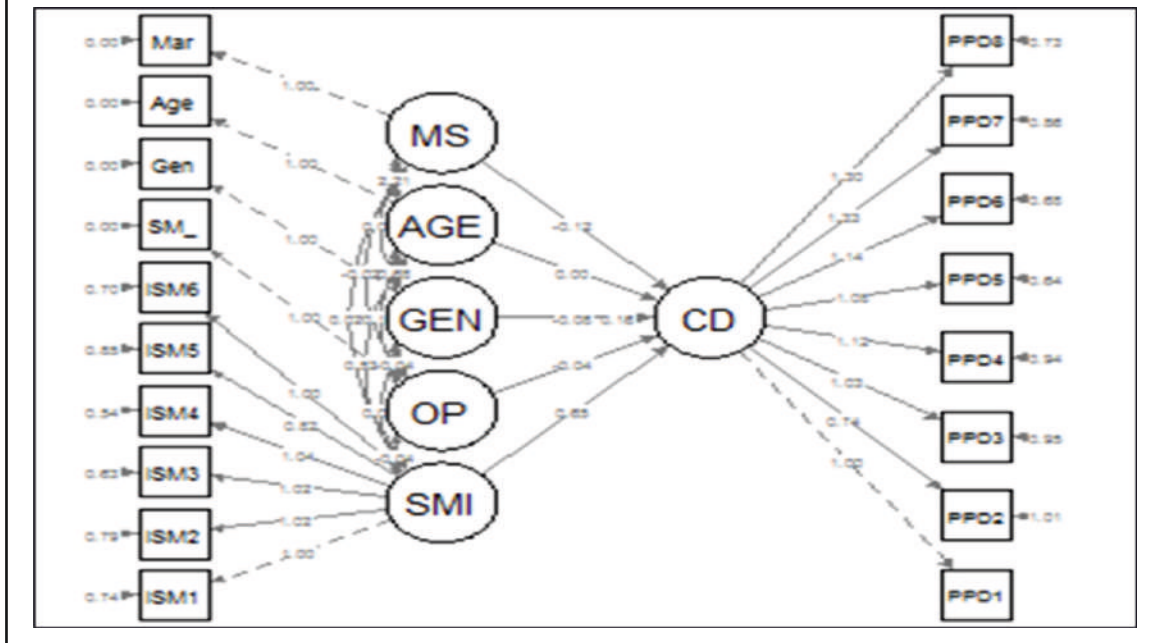


Table 9. The Regression Weights, SEs, z-value, and p - values

Descriptions	Estimate	Std. Err	z-value	P(> z )
<b>Paths:</b>				
CD ~ SMI	0.651	0.099	6.612	0.000
CD ~ OP	-0.042	0.078	-0.545	0.586
CD ~ GEN	-0.079	0.074	-1.068	0.286
CD ~ AGE	0.000	0.005	0.025	0.980
CD ~ MS	-0.117	0.100	-1.173	0.241

CD – Cognitive Dissonance, SMI – SM Impact, OP - Online Purchase, GEN – Gender, AGE – Age, MS – Marital Status.

Table 10. Model Fit Summary

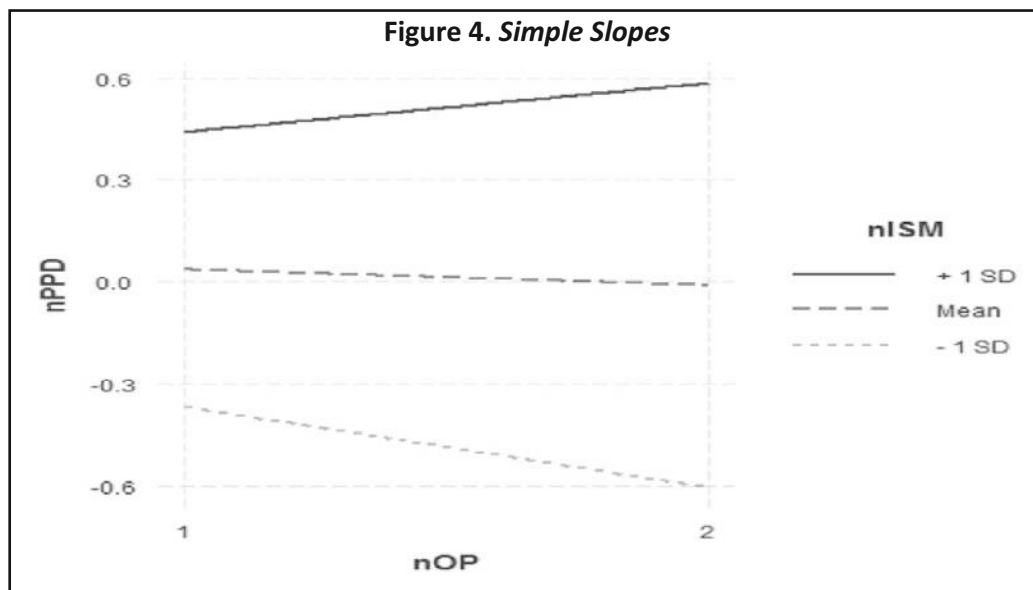
Model	CMIN	DF	P	CMIN/ DF
Over identified model	228.74	124.00	0.000	1.845

Table 11. Model Fit Summary

Default Model - CMIN/ Df	GFI (Goodness of Fit Index)	CFI (Comparative Fit Index)	TLI (Tucker Lewis Index)	RMR (Root Mean Square Residual)	SRMR (Standardized Root Mean Square Residual)	RMSEA (Root Mean Square Error of Approximation)
1.845	0.893	0.912	0.891	0.109	0.051	0.062

**Table 12. Simple Slopes Analysis**

Slope of nOP when nISM = $-8.494326 \times 10^{-1}$ ( $-1$ SD):		
Estimate	Standard Error	p
-0.24	0.12	0.04
Slope of nOP when nISM = $-3.315461 \times 10^{-16}$ (Mean):		
-0.05	0.08	0.57
Slope of nOP when nISM = $8.494326 \times 10^{-1}$ ( $+1$ SD):		
0.14	0.11	0.20



Further, the moderation effect of SM on PPD is also examined by analyzing the simple slopes using the Johnson-Neyman interval. The results are shown in Table 12 and Figure 4.

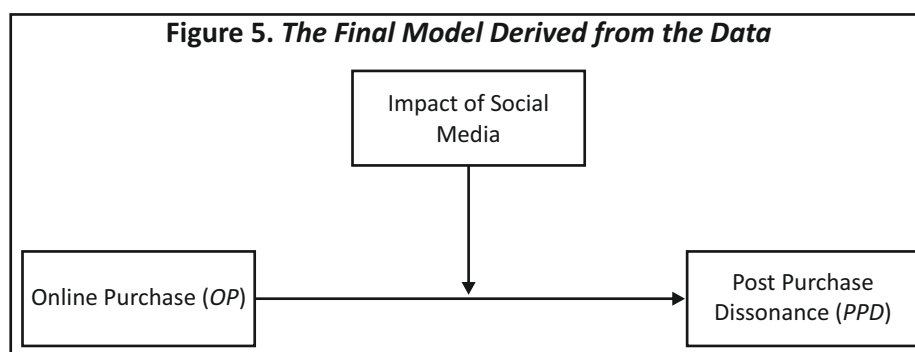
## Discussion

Chi-square in SEM is often overly sensitive to large samples in model testing (Kenny, 2020). Hence, to test the model's goodness of fit, researchers use the ratio of chi-square to degrees of freedom (Wheaton et al., 1977). However, the opinion is divided as to what is a good ratio. While 2 and 5 indicate a reasonable fit (Marsh & Hocevar, 1985), few think that a reasonable measure for an acceptable fit is the ratios in the range of 3–1 (Carmines & McIver, 1981). The ratio of CMIN to *DF* in this study is 1.845, indicating an acceptable fit.

Besides, the goodness of fit (GFI) and comparative fit index (CFI) are 0.89 and 0.91, indicating model fit (Hu & Bentler, 1999). Further, the RMSEA value in this study, which is 0.06, is acceptable (Fabrigar et al., 1999). RMR, SRMR, and RMSEA are all small and acceptable, indicating that the model fits well with the data. Further, the slope analysis (Figure 4) proves that SM has a moderating effect (since the lines are not parallel). However, the slopes at the mean and one standard deviation above are insignificant.

## Conclusion

With the spread of the internet and increased online purchases, it is expected that PPD would be significant, as it was noticed in the US. However, the study reveals that online purchases alone do not result in PPD. SM has a significant moderating role in precipitating PPD. Organizations should pay attention to social media and reviews appearing therein since trust in them is strongly associated with their usefulness (Gautam et al., 2022). Thus, the role of SM has been strongly brought out in this study. In many instances, it has been shown that a difference exists in men's and women's behaviors. Once again, the study shows that there is no impact of gender on PPD. Men and women have no noticeable difference in their feeling toward dissonance. Similarly, neither age nor marital status affects PPD. Thus, the final model that emerged from this study is shown in Figure 5.



## Managerial and Theoretical Implications

The implication of this study is both important and straightforward. Firms should closely monitor SM. SM can easily sway or disturb the cognitive balance the customers may have reached before purchasing. As consumers use SM to choose a product, check it out, and make purchase decisions (Mason et al., 2021), it has become more critical for firms to keep a close watch on SM. As propounded by Khatri and Kale (2022), firms should incorporate the 4Rs, that is, (a) reach & enquire; (b) relate & evolve; (c) respond & engage; and (d) relationship building & emotional connect in their social listening to pre-empt any post-purchase dissonance.

The theoretical learnings from this study are : (a) SM has a significant moderating role in precipitating PPD; however, (b) online purchases by themselves alone do not result in PPD, and (c) neither gender, marital status, nor age has any significant role in PPD. With the success of online shopping expected to continue, its importance in marketing gets accentuated. Consequently, firms must pay attention to online marketing and social media usage.

## Limitations of the Study and Scope for Further Research

Like any other research, this study also has a few limitations. The first one is that the study tested PPD among online customers. Ideally, offline or any form of purchase should have been included. We were drawn to the increasing online purchases, so we limited our approach to online purchases. The above limitation opens up a possibility for future research involving all types of purchases. The second point is that the data were collected during the COVID pandemic, and we did not know its impact on online purchases or PPD.

Another issue is that, after carefully considering the literature during the research and conducting more than one type of analysis, it was realized that there are still different approaches to analyzing the data. However, the different types of analysis (linear regression, SEM, and slope analysis) conducted in this study have all produced

the same results. Lastly, other confounders such as personal characteristics, type of product brought, and the brand equity of the product were not considered in the study and might also have influenced the results. A scope for further research exists to understand how the PPD affects the shoppers' future purchases.

## Authors' Contribution

Dr. S. Shyam Prasad did an extensive literature review and identified the problem. He conceived the research design and developed the research instrument. Amruta Y. K. collected the data and compiled and cleaned the same, preparing it for analysis. She also prepared the first draft of the manuscript. Dr. Shyam analyzed the data using R software and incorporated the analysis and discussion part. The authors consulted each other in the preparation of the manuscript. Dr. Shyam was responsible for overseeing the article's correctness and accuracy.

## Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

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