

Time-contingent Impact of Inconsistent Action-based Information Cues on Social Commerce Purchases: An Experimental Investigation

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Abstract

Social commerce websites predominantly display two types of action-based online social information: product's past purchases and bookmarks (e.g. wish-lists). The impact of inconsistency between these two information cues on consumer decision making is uncertain and is expected to be dependent on the purchase context. In this paper we investigate the effect of (action-based) online social information inconsistency on consumers' likelihood of purchasing a product for temporally proximal and distant purchases. Using a controlled experimental set-up with Latin-square design and linear mixed model analysis we find significant interaction effect of information inconsistency type and temporal distance of purchase on purchase likelihood of product, establishing the purchase timing dependent impact of information inconsistency. The paper offers several academic implications, and valuable insights for website managers to elicit favorable consumer responses even under information inconsistency and effectively design their product recommendation strategies.

1. Introduction

Latest trends in social commerce indicate extensive use of different types of online social information (reviews, ratings, purchase behavior etc.) to signal quality of their offerings and credibility of the platforms. Social commerce is an emerging field in online commerce with no specific definition. However, it could be defined as the amalgamation of the Internet based media (social media) and e-commerce to enable users to participate in the selling, buying, comparing, and sharing of information about products and services available in online marketplace [1], [2]. Prior works identify two types of online social information: opinion-based which includes reviews, comments, etc., and action-based which includes peer consumers' purchase,

bookmarking behavior, etc. [3]. Considerable amount of research has been carried out in this domain, especially for opinion-based information, recognizing it as a major source of influence on consumers' purchase decisions [4]–[6]. In a bid to exert stronger influence on users, websites often display multiple social information, simultaneously. Multiple information cues, when consistent across different sources, ease consumers' decision-making process by reinforcing each other. However, in reality consumers often face conflicting information about a product from different sources, challenging their decision making and weakening their inclination to purchase an item [7]. Recent studies investigate information processing in presence of inconsistent information and the heuristics followed by consumers to alleviate uncertainties raised by confounding information cues [8], [9]. However existing studies mostly focus on opinion-based information such as reviews and peer recommendations, overlooking the other crucial information (action-based) inconsistency despite the fact that actions act as stronger informative signals than opinions in online platforms [10].

Two types of action-based online social information are typically found in social commerce websites. First, information cues such as “x items sold”, “x customers bought this product” indicate consumers' past purchase behavior. Second, product bookmarking cues such as “x customers have the product in their wish-lists” or “x customers want this item” indicate their potential purchase behavior. Product bookmarking, a recent phenomenon in social commerce allows consumers to virtually bookmark the products they are interested in and are willing to purchase later. Both the information cues can influence consumer purchase decisions as they signal peer consumers' preference for that product [10], [11]. However, for situations where these two information cues are simultaneously present, and their values differ from each other to a large extent, consumer decision making becomes difficult to predict. It would be interesting to ascertain consumer preferences under the influence of inconsistent (action-based) information.

Prior studies show users' preference for different online information varies with purchasing context e.g. product involvement [12]. Thus, it is logical to argue that in presence of information inconsistency consumers' information preferences and decision making would be context specific. The importance of context becomes more critical in case of inconsistent information because here users are compelled to provide unequal weightages to different information cues. If both the information sources signal similar preference for a product, resulting in information consistency, user behavior could be predicted with fair amount of certainty under any situation. For example, if a product is bought by very few consumers and appears in very few wish-lists, it would not be considered as a reliable deal to go for, in general. However, if an item is bought by few consumers but bookmarked by a large number of users, consumers' perception for it may be ambiguous and would depend upon the consumption situation. Previous research related to online information inconsistency investigate users' information processing and decision making without taking purchase context into consideration [8], [9], despite context being a significant determinant of individuals' information preferences.

In social commerce environment individuals often face diverse purchase contexts which influence consumers' information seeking tendencies e.g. product involvement. Another crucial context could be purchase timing. In online shopping platforms consumers browse products with the intention to either buy it immediately or buy it later. Product bookmarking, shopping carts etc. have enabled users to save their preferred item for future purchases. Also, discounted sales being a regular phenomenon in today's online shopping scenario, consumers often check items to buy them at later point of time at slashed price. Thus, immediate and future both types of purchase timing are typically observed in e-commerce and social commerce sites, making temporal distance of purchase an important context. Earlier works identify that temporal distance of purchase dictates individuals' information preferences and decision making by regulating their frame of mind [13], [14]. In social commerce, understanding users' information preferences for different purchase timing and hence being able to predict their likelihood of purchasing a product with inconsistent information cues, be it immediately or at later point in time, would help the website managers to efficiently manage customer responses under inconsistency and better design their product recommendations. Also, based on the insights of our study, website managers may be able to integrate action-based information cues such as peer past purchases and bookmarks into their recommendation systems.

Given the criticality of the phenomenon and scarcity of prior research on the same, we attempt to answer the following research question:

RQ. How does temporal distance of purchase moderate the impact of inconsistent (action-based) online information cues on consumers' purchase decisions?

Drawing on Higgins' Regulatory focus theory [15] we try to explain how individuals assign disparate mental weights to different informational cues for temporally close and distant events, changing the relative importance of information inconsistency based on the timing of purchase. We conduct a controlled experiment to study the effect of inconsistency between a product's past purchase and bookmarking information on subjects' propensity to purchase it under temporally proximal and distant scenarios. Information inconsistency is achieved by keeping the value of one information, say past purchase, as high (low) and the value of the other information, say wish-list, as low (high), resulting in two types of inconsistency. We observe significant interaction effect of inconsistency type and purchase timing on users' purchase likelihood, indicating the relative importance individuals paid to each of the informational cues. Results reveal that inconsistency involving high value of past purchase and low value of product bookmark elicits higher purchase likelihood in case of immediate purchases than distant purchases. However, inconsistency involving low value of past purchase and high value of product bookmark elicits similar purchase likelihood in both situations.

Our study offers several academic and practical implications. First, it advances the currently thriving area of research on inconsistent online social information by looking into two frequently encountered action-based online social information (past purchase and product bookmarking). Second, it establishes the critical role of purchase timing on consumers' information processing and decision making under information inconsistency. Third, the study draws attention to the under-explored online social information cue found in social commerce sites, i.e. product bookmarking, and demonstrates its importance in shaping consumers' purchase intention. Finally, the insights shared in this research provide guidance for practitioners to better manage inconsistent information cues in social commerce platforms and devise their product recommendation strategies accordingly.

2. Theoretical background and hypotheses

2.1. Information processing under information inconsistency

Prior research show that consumers find decision making a cognitively challenging exercise in presence of several concurrent yet inconsistent information cues [8], [16]. To cope up with cognitive load resulting from multiple contradictory information sources they tend to assign relative importance to various informational cues congruent to their mental representation at the point of decision making, leading to selective filtering of some [17], [18]. Congruency between information and consumers' mental representation eases the effort of information processing and in turn positively influences their attitude towards the product under evaluation [14], [19]. Hence, we may posit that when faced with information inconsistency individuals pay more importance to one information over the other depending on their existing mental frame.

2.2. Regulatory focus theory

We propose temporal frame to be one of the critical stimuli to influence consumers' preference for information. To understand how temporal distance of purchase moderates the effect of inconsistent information cues on consumers' purchase decisions we use Higgins' regulatory focus theory.

According to this goal pursuit theory, individuals adopt one of the two motivational orientations while approaching a task or a goal: promotion-focus and prevention-focus [15], [20]. Under promotion-focus mindset individuals are inclined towards advancements and achievement of aspirations (hopes), whereas under prevention-focus mindset individuals are inclined towards reliability, security and meeting obligations (needs) [20], [21].

Earlier works show that product type, advertisement type, consumption scenarios etc. are instrumental in evoking either of the two regulatory focus (promotion-focus vs. prevention-focus) in consumers while pursuing a purchasing goal [22], [23]. One such consumption scenario, temporal distance of purchase, has been established as an important dictator for consumers' tendency to adopt either of the two regulatory focus. Studies show that for immediate purchase conditions individuals are more likely to be in prevention-focus mindset, while in case of temporally distant purchase conditions they are more likely to be in promotion-focus mindset [24]. Also, individuals' tendency to seek and evaluate information depends on their regulatory focus. Under prevention-focus individuals value information conveying security and reliability, whereas under promotion-focus individuals value information conveying desirability and aspiration [23]. For example, consumers in prevention (promotion) mindset perceive risk-framed advertisements more

(less) appealing and persuasive than benefit-framed advertisements [25].

2.3. Past purchase vs. product bookmarking

Different types of action-based online social information signal different facets of a product. Past purchase information signals a product's quality and reliability since consumers feel it safe to purchase a product already tried and tested by peers [10], [26]. On the other hand, product bookmarking (wish-lists, pinning, watch-lists etc.) conveys a product's potential or expected future sales [11] and signals its desirability since products in wish-lists reflect aspirational value. Thus, we expect greater regulatory fit between a product's past purchase information and prevention-focus mindset. Similarly, product bookmarking information would have greater regulatory fit with promotion-focus mindset.

When both the information is simultaneously presented, and their values differ to great extent, users may assign differential importance to the two types of information. Products which display high (low) past purchase volume and low (high) bookmark volume evoke higher (lower) sense of reliability but lower (higher) sense of desirability inducing prevention-focus (promotion-focus) frame of mind. Since immediate (distant) purchase conditions trigger prevention- (promotion-) focus mindset, consumers tend to assign higher weightage to product's past purchase information (bookmark volume) and lower weightage to bookmark information (past order volume) under immediate (distant) purchase scenarios than distant (immediate) purchase scenarios.

As evaluative outcome of information inconsistency we measure individuals' likelihood of purchasing a product, which is a direct consequent of the relative importance they assign to informational cues. Consumers finding congruency between information type and their mental representation are more likely to follow it in their final decision making [14], which gets reflected in their intention to purchase the product [27], [28]. Hence, we can say that purchase timing (temporally close vs. distant) moderates the effect of information inconsistency type on consumers' purchase likelihood of a product. Figure 1 provides the conceptual model of our paper. Drawing on the arguments we propose the following set of hypotheses:

H1. Information inconsistency involving high past purchase volume and low product bookmark volume leads to higher purchase likelihood of a product in case of immediate purchases than distant purchases.

H2. Information inconsistency involving low past order volume and high product bookmark volume leads

to higher purchase likelihood of a product in case of distant purchases than immediate purchases.

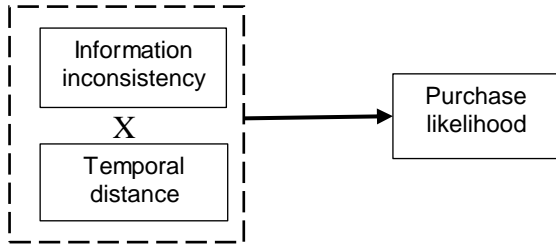


Figure 1. Conceptual model

3. Research method

3.1. Research design

To test our hypotheses, we conducted a controlled experiment with 2x2 within-subject design with one factor being the type of inconsistency and the other being the temporal distance of purchase. The advantages of within subject design are greater statistical power than between-subject designs, requiring fewer participants, and higher internal validity. However, the design is flawed by ‘demand effect’ leading to hypotheses guessing by the respondents [29]. To alleviate this problem, a robust approach of Latin-square design is used. In such designs each subject goes through all the treatments, with the sequence of the treatments being randomized among subjects to reduce the carryover or demand effect [30]. We used a two-factor Latin-square design to operationalize our experiment. Factor 1 (inconsistency type) had two levels: (i) high past purchase volume and low bookmark volume, and (ii) low past purchase volume and high bookmark volume. We called these levels as Inconsistency type I and Inconsistency type II. *Number of past-buys* and *number of wish-lists* were used as variables to measure past purchase volume and product bookmarking volume, respectively. Factor 2 (temporal distance) had two levels: (i) low and (ii) high, resulting in 4 treatment conditions. Table 1 shows the treatment conditions mapped to different combinations of the independent factors.

Table 1. Treatment conditions

Treatment No.	T1	T2	T3	T4
Inconsistency type x Temporal distance	Type I- Low	Type I- High	Type II- Low	Type II- High

Each of the treatment conditions was coupled with four different products to form four different sequences. We used rucksack, selfie-stick, solar-power bank, and headphones in our experiment as these products were utilitarian, low-involvement, and gender-neutral in nature. Table 2 shows the Latin-square design resulting from different combinations of products and sequences. This means that subjects who were randomly assigned to Sequence 1 of the experiment were first shown a scenario with Type 1 inconsistency and low temporal distance scenario (T1) for buying a rucksack, next they were shown scenario T2 for buying a selfie-stick, and so on.

Table 2. Latin-square design of our experiment

	Rucksack	Selfie-stick	Power bank	Head phones
Seq1	T1	T2	T3	T4
Seq2	T4	T1	T2	T3
Seq3	T3	T4	T1	T2
Seq3	T2	T3	T4	T1

3.2. Pre-test

We carried out pre-tests for preparing the stimuli, i.e. to determine the values needed to operationalize different levels of inconsistency type and temporal distance. In the first round of pre-test 14 doctoral students were asked to indicate the number of past-buys and number of wish-lists which they would perceive as low and high. They were also asked to indicate the purchase distances they considered as high and low. The results suggested volume above 300 was perceived as high, and volume below 50 was perceived as low volume for past orders. Results also revealed that number of wish-lists had to be above 200 to be perceived as high, below 30 was perceived as low volume for wish-lists. An immediate purchase scenario was treated as low temporal distance, whereas 2 months (8 weeks) represented high temporal distance. We also inquired the minimum star rating at which the participants were willing to consider a product for purchase. The results indicated an average star rating of 3.8 out of 5 to be positive rating for a product.

We further ran a second round of pre-tests with 16 students (new sample) to get the individual estimates of the number of past-buys and wish-lists for each of the products since, in real life, these volumes are expected to differ product-wise.

3.3. Subjects

The respondents were industry professionals who were part of an executive program at a reputed institute of an Asian country. They represented the population of the Internet users and online shoppers and were familiar with social commerce websites. Total 120 professionals were invited for the survey out of which 70 complete responses were received. 81% of them were male and 19% female; with average age of 34 years. 47% of the subjects reported to be extremely familiar with social commerce sites and online shopping, and 85% visited an online shopping site not more than one week prior to reporting, keeping them aware of the key features of an online shopping sites.

3.4. Experiment procedure

The participants received an e-mail invitation to fill out a scenario-based survey. The purpose of the survey stated in the e-mail was to understand how individuals process information on online shopping sites. After the introduction page which contained general instructions on filling the survey, the participants were randomly assigned to one of the four sequences (as shown in Table 2). Thus, each of the subjects went through all the treatments presented randomly as one of the sequences. For immediate purchase condition, participants were asked to imagine a scenario which was read “*place the order today itself to receive the product before your impending trip next week.*” For temporally distant condition, the scenario read, “*place the order after 8 weeks (2 months) from today once you get your itinerary confirmed.*” The scenarios were used to prime the respondents according to the two levels of temporal proximity of purchase. Layouts of a hypothetical social-commerce website were provided with several product-related informational cues including information on the number of prior purchases and wish-lists. Hypothetical websites with fictitious scenarios have been used to conduct controlled experiments in prior research as well [14], [31]. To control for factors such as prior trust and credibility, the presented layouts were of a fictitious website and fictitious brand names were used for the products. Thus, we ensured that there was no ex ante bias elicited by the website or the product brands. Product description was kept minimal and neutral, and the average star rating of all the products varied between 3.8 to 4.2, out of 5, with respect to the pre-tested value. 70 subjects going through 4 treatments resulted in 280 observations.


Figure 2 shows the layout of the website depicting a rucksack coupled with the scenario presenting treatment condition T1, thus making it the first treatment the subjects assigned to Sequence 1 had encountered. Following each treatment condition, subjects were requested to respond to a set of questions which

included measurement of the dependent variable (likelihood of purchasing the product) and questions related to manipulation checks. The dependent variable was measured by standard one-item scale adapted from previous studies [32], [33]. We asked the respondents to indicate their agreement to the statement on a 7- point Likert scale: “*If needed I would purchase the product*” (1 = “Strongly disagree” to 7 = “Strongly agree”).

After they went through all four treatments and the following questions, general questions related to their demographics (age, gender, and employment status), and online shopping familiarity and frequency were asked. Their propensity to consider peer rating and peer purchase behavior while making purchase decisions were also captured. Finally, the respondents were debriefed and thanked for their participation. The survey took, on an average, 12 -15 minutes to complete.

Scenario: Imagine you are planning to go for a trip next week.

You are on an online shopping site for the purpose of buying a *rucksack*. You want to place the order **today** itself so that you receive the product before your impending travel date. You come across this product on the website.



WC Grey and Orange Rucksack
 Price: **Rs. 1999.00**

★★★★☆ (3.8 out of 5)
 369 customers have bought this product
 17 customers have this product in their wish list

Product description:

- Outer Material: Nylon
- Color: Orange
- Water resistant

Figure 2. Scenario for treatment T1 (Inconsistency type I and low temporal distance) of Sequence 1.

4. Results

4.1. Manipulation checks

To check whether our manipulation worked as intended, we asked the participants two questions after each treatment regarding their perception about the volume of past-buys and wish-lists: “*What do you feel about the volume of the past-buys of the product?*” (1= “Extremely low” to 7= “Extremely high”). “*What do you feel about the volume of wish-lists this product is in?*” (1= “Extremely low” to 7= “Extremely high”). Comparison of mean values (t-test) revealed that there was significant difference in past-buys between

inconsistency type I and type II ($M_{TypeI} = 5.07$; $SD = 1.13$ & $M_{TypeII} = 3.10$; $SD = 1.40$; $t(278) = 12.94$, $p < 0.001$). Similarly, t-test for wish-lists also indicated significant difference between inconsistency type I and type II ($M_{TypeI} = 3.20$; $SD = 1.36$ & $M_{TypeII} = 4.98$; $SD = 1.28$; $t(278) = -11.22$, $p < 0.001$). Since these questions were administered after each treatment, to avoid any possibility of hypotheses guessing two filler questions regarding participants' perception about the product's price and rating were asked for each product.

To test whether the temporal distance presented in the scenarios were perceived as intended we asked the subjects to answer the question: "According to you, the time-gap between checking a product today and placing the order after 8 weeks (two months) is" (1= "Extremely low" to 7= "Extremely high"). The results revealed that subjects perceived 2 months gap to be temporally distant from today ($M_{Distant} = 5.4$; $SD = 1.73$).

We further checked the respondents' perception of the manipulations at an individual level and dropped the observations in which they had incorrectly perceived the manipulation. For example, in a scenario with Inconsistency I (high past-buys and low wish-lists) we dropped the records where perceived volume of past-buys was rated low (less than 4 out of 7) and/or perceived volume of wish-lists was rated high (more than 4 out of 7). Thus, we ensured valid manipulation for the remaining observations which resulted in 212 data points.

4.2. Analyses and findings

Owing to our research design (Latin-square) with repeated measurements on each respondent there was a possibility of correlation between observations. To handle such data, we applied linear mixed model, a more general and flexible approach of data analyses which allows correlation between observations and missing data. Linear mixed models can estimate both fixed and random effects in one model. Fixed effects result from the intended manipulation and are of our primary interest. Random effects rise because of the sampling procedure used or repeated measurement on a subject which might introduce correlations between cases [34].

We ran our linear mixed model on SPSS Statistics using purchase likelihood as the outcome variable, inconsistency type, temporal distance and their interaction as independent variables, and participant demographics (gender, age), familiarity with social commerce sites, product type, product rating, price, and sequence of treatment as control variables. Table 3 shows the fixed effect of the independent variables and the controls on the dependent variable.

Significant interaction between independent variables ($F(1,146.39) = 5.32$, $p < 0.05$) was observed which implies at least one of the means under investigation is significantly different from the others. To further check how the outcome variable differed between scenarios, we compared the estimated marginal means of purchase likelihood under each treatment condition. Table 4 presents the means and standard errors of the dependent variable (purchase likelihood) for four treatments. Figure 3 shows the graphical representation of the results.

Table 3. Fixed effects of input factors

Dependent Variable: Purchase Likelihood				
Factors	df	Denominator df	F	Sig.
Intercept	1	138.79	58.21	.000
TD*	1	150.29	1.78	.183
IT**	1	154.25	12.58	.001
TD x IT	1	146.39	5.32	.022
Price	1	198.10	23.57	.000
Product rating	1	186.69	.01	.917
Product type	3	171.87	2.51	.060
Block	3	73.58	.79	.501
Age	1	69.14	.06	.800
Familiarity	1	65.61	.22	.643
Gender	1	68.96	1.32	.254

* TD: Temporal distance; ** IT: Inconsistency type

Pair-wise comparison of estimated marginal means revealed a significant difference in purchase likelihood between immediate purchase scenarios and distant purchase scenarios for inconsistency type I ($p < 0.05$), with higher purchase likelihood for immediate cases than for distant cases, supporting hypothesis H1. However, no significant difference in purchase likelihood was observed between immediate and distant

scenarios for inconsistency type II. Hence, hypothesis H2 is not supported. The results show that consumers are sensitive about the purchase timing when inconsistency involves *high past order volume and low wish-list volume*. However, in presence of inconsistency with *high wish-list volume and low past order volume*, consumers are indifferent about temporal distance of purchase. The reason could be that the respondents assign higher weightage to past-orders (safety-related cues) in immediate than distant purchases. However, they assigned similar weightage to wish-lists (desirability related cues) for both the purchase timing, deviating from our original conjecture. A possible explanation for their preference is that the actual usage of the product is not confined to the time of purchase but stretches further in future, and desirability cues being congruent with individuals' mental representation of future consumption remains equally relevant for both the purchase situations.

Table 4. Purchase likelihood under different treatments

	Mean (Std. error)	
	Information inconsistency	
	Type I	Type II
Temporal distance low	5.53 (0.169)	4.51 (0.201)
Temporal distance high	4.90 (0.197)	4.68 (0.241)

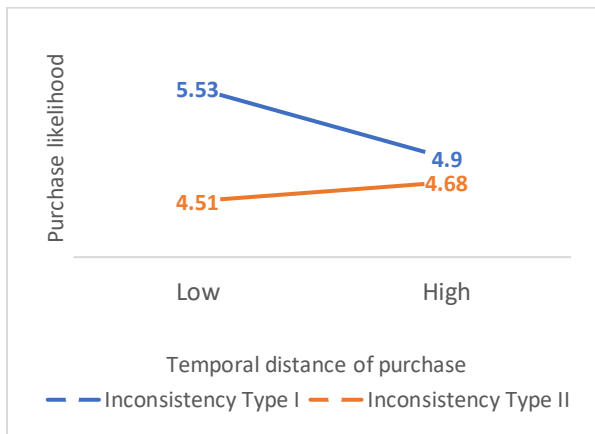


Figure 3. Estimated marginal means of purchase likelihood

An additional insight from the results is that the difference in the outcome variable for the inconsistency types are significantly more in immediate than distant conditions. This is possibly because the signaling strength of past-buys is higher than wish-lists. Thus, for the immediate condition, when both past-purchases and

wish-lists were given importance, inconsistency I resulted in much higher purchase likelihood than inconsistency II. Whereas, for the distant condition, even after decreased weightage of past-purchases, inconsistency I and inconsistency II resulted in similar purchase likelihood. Lastly, purchase likelihood for all four treatments have mean value more than 4 (out of 7), indicating positive buying intention in all the cases.

5. Discussion and implications

The findings of our study reveal that consumers' purchase decision is influenced by information inconsistency, contingent upon the purchase situation (temporal distance of purchase). The results show that information inconsistency type I leads to higher (lower) purchase likelihood for temporally proximal (distant) purchase decisions. This happens because immediate purchases demand higher sense safety and security (than distant purchases) which is satisfied by higher past order volume of a product even when the other information cue is low.

We also observe that information inconsistency type II involving high volume of product bookmarking (even with low past-purchases) triggers similar purchase likelihood for both situations. This is because irrespective of purchase timing the actual consumption of the product stretches in future making desirability cues relevant even for immediate purchases. Interestingly, when the purchase is far in future individuals pay less attention to the safety and security cues than they do when the purchase is near.

5.1. Theoretical implications

The academic contribution of our study is manifold. First, this is a novel attempt to identify the effect of inconsistency between two action-based online social information: product's prior purchases and bookmarking, on consumers' purchase decisions. While few prior studies sparingly look into the interplay between multiple online information cues, they typically considered opinion-based cues such as online reviews or peer recommendations [7], [8], [12]. We contribute to the body of knowledge by introducing the interplay of action-based information cues.

Second, our paper establishes the critical role of purchase timing in consumers' decision making under information inconsistency. The findings of our study not only advance the extant body of literature in social commerce, but also extend the general understanding of information processing at various temporal points of purchase and consumption. For instance, we show that product's safety related cues influence consumers'

decision more in temporally proximal purchase situations, whereas, desirability related cues influence similarly in both temporally proximal and distant purchase situations. Also, we study the effect of these information cues by presenting them simultaneously, whereas previous studies have treated two or more online information in standalone [12]. Thus, the insights shared in the study is closer to the reality where multiple competing information are concurrently available to users.

Third, an interesting observation is that even when one action-based information cue is low, if the other information is high users have a favorable attitude toward the product irrespective of the purchase timing. This deviates from the prevailing understanding that inconsistent recommendations create negative attitude toward a product [7], thus bringing in a new perspective to the domain of online information inconsistency.

Finally, the paper establishes significant influence of product bookmarking such as wish-lists, watch-lists, pins etc. in shaping users' purchase intention. Despite being a pervasive and prominent feature of social commerce, prior academic research has paid little attention to study this aspect.

5.2. Managerial implications

Our research provides several valuable insights to practitioners for leveraging action-based online information on social commerce platforms to positively influence users' purchase behavior. First, owing to the importance of action-based online information, social commerce platforms are urged to facilitate users to report their past purchases and product bookmarks, and display them alongside opinion-based information such as reviews, ratings and peer recommendations.

Second, this study provides guidelines to the social commerce websites to tailor their recommendations, especially when the products to be recommended have inconsistent information. According to our results, items with higher volume of past purchase (even if the volume of bookmarking is low) would be more suitable for recommendations for immediate purchases, which is commonly the case. However, if a user bookmarks an item, which indicates her intention to purchase it later, personalized recommendations should include products which are high on either of the two factors (past- buy or wish-lists).

Third, for newly launched products which naturally have no or very low past purchases, websites may leverage the product bookmarking information to signal their perceived desirability and influence purchase intention.

5.3. Limitations

Our study has few limitations that call for further research in the area. First, the scope of our inquiry is restricted in the context of information inconsistency, thus exploring high-low combination of two action based online information. Further exploring the effect of consistent information (high-high and low-low combination) and comparing them with our findings would generate more interesting insights. Second, despite our efforts to imitate real-world purchase conditions as closely as possible, hypothetical scenarios used in the study may elicit responses which might be different from consumers' real behavior. It would be interesting to investigate consumer behavior in real purchase situation where given a fixed budget they would be asked to make choices. Also, we use products of only one type (utilitarian, gender-neutral, low involvement) in the study. Future research may investigate the phenomenon using hedonic, high involvement items, and also may use product type as an additional factor. Third, we study the moderating effect of temporal distance. Interaction of information inconsistency with other psychological distances or factors such as product involvement could be studied in future research. Fourth, though we explain the observed phenomenon with the help of existing theories of psychology, further examination of the underlying mechanism would strengthen the findings.

6. Conclusion

Multiple information on social commerce platforms, if inconsistent, compel users to make purchase decisions after providing differential weightage to different information cues, depending on the purchase context. In this paper we investigate the effect of inconsistency in product's past purchase and bookmarking information, two influential action-based online social information cues widely found in social commerce websites, on a product's purchase likelihood, based on timing of the purchase. We find that inconsistency involving high past purchase volume and low product bookmark volume leads to higher purchase likelihood of a product in case of immediate purchases than distant purchases. However, inconsistency involving low past purchase volume and high product bookmark volume leads to similar purchase likelihood both the cases. The results indicate that consumers give higher weightage to past purchase information, an information cue signalling reliability, in immediate than distant cases, whereas product bookmarks, an information cue signalling desirability, receives similar weightage in both situations. The study makes valuable contribution in research as well as practice.

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