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Drivers of Customer Sustainable Consumption through the Lens of Customer Knowledge Sharing in ARIT-enabled Fashion Shopping Device

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KEYWORDS

Augmented Reality, Smart Fitting Rooms, Interactive Mirrors, Smart Glasses, Service-Dominant Logic, Customer Engagement, Fashion Shopping.

ABSTRACT

The market forecast for Augmented Reality technology is encouraging. The fashion industry has been one of the early adopters. Several AR-enabled devices have been developed and are being implemented in retail fashion stores. Devices are also available for customers to shop fashion online. Examples of AR devices include Smart Glasses, Smart Fitting Rooms, and Interactive Mirrors, collectively referred to as Augmented Reality Interactive Technology (ARIT). The forecast for ARIT in Fashion shopping is also upbeat. This paper reviews the academic literature on Augmented Reality in customer engagement, within the context of using this technology for fashion shopping. We also looked at marketplace insights. Sustainability and Customer Co-creation/Co-Production are two themes in which the fashion industry is heavily invested, to encourage responsible buying and consumption, and to drive business through one-to-one personalization. This paper applies the Service-Dominant Logic aligned Customer Engagement Framework to empirically study these trends. A novel construct has been proposed to study the antecedents and consequences of customer co-creation. The moderating effect of ARIT perceived interactivity and perceived augmentation has also been studied. 316 users of ARIT across the USA and India participated in the online survey over the Prolific platform. SPSS and AMOS were used for data analysis with CFA (Confirmatory Factor Analysis) and SEM (Structural Equation Model). Close to 1000 papers from Web of Science and Scopus were downloaded from 2019 to 2014. Bibliometric analysis confirmed the themes of sustainability and customer co-creation as key areas for further research. Interactivity and Augmentation features of AR were identified for studying their impact on sustainability and customer co-creation. Key findings of this paper include the quantitative study of Customer Knowledge Sharing (CKS) as an antecedent to Customer Co-creation (CCO) and the novel consequence of driving Sustainable Purchase (SP), within the context of fashion shopping. The moderating effect of ARIT devices in fashion shopping was also studied to understand whether ARIT is expected to strengthen these relationships or if this technology is creating disengagement. The paper provides insights to practitioners on areas of improvement in ARIT and the pitfalls to watch out for to avoid customer disengagement.

1. INTRODUCTION

The fashion industry has been an early adopter of Augmented Reality Interactive Technology (ARIT) - Smart Glasses (ARSG), Smart Fitting Rooms (SFR), and Interactive Mirrors (IM) to drive shopping within the retail store and for online customers (Silvestri, 2020). ARIT is also believed to drive sustainable practices (Li, Zhu, & Shi, 2021). Amazon's AR feature now allows users to virtually try on shoes, and so does the Nike Fit AR tool. Gucci for virtual try-on of their accessories. Myntra's Try and Buy feature. These are examples of the investments being made by fashion brands to engage with customers. The global AR market in fashion is projected to reach USD 15 billion by 2029 (TechSci Research). The USA currently holds over 40% of the AR shopping market. The Indian AR market in fashion is expected to reach USD 801 million by 2030 (Asia Pacific Market News). The leading SFR brands include Detego and Scala. ARSG includes Google Glass Enterprise 2 and Microsoft HoloLens 2. IM brands include the Prestop company, Electric Mirror, Inc., and ProDisplay. Are these investments worth the while? What is driving the market forecasts? There is significant academic literature on AR and Customer engagement. A large percentage focused on studying the positive impact of AR, as per the bibliometric analysis performed, in this paper, on approximately 1000 articles each from WoS and Scopus. However, screen-related issues in AR devices and the distortion of images have been reported. (Pratik Shrestha et al., 2025). The need for better scanning of the body using AR. (Justin Blalock et al., 2024). Studies acknowledging technical challenges with AR devices in fashion shopping. (Mingzhe Yu et al., 2024). Privacy concerns. (Ella Bergström, 2025). Limited motion simulation. The current maturity of AR devices in fashion shopping is therefore suspect and needs study. This paper studies the moderating effects of ARIT interactivity and augmentation on customer engagement. This paper will empirically study these effects to understand whether the AR device investments in fashion a hype or have a positive impact on fashion shopping. It will guide practitioners if any improvements need to be made to current AR devices and whether there are pitfalls to watch out for. Is it still early stages of AR-driven customer engagement in the fashion industry? (Usman et al., 2024). Is the consumer market still evolving for ARIT usage in shopping? (Anna Watson et al., 2020). Does AR have the potential to enhance customer engagement or is it in its infancy in the fashion industry? (Liangchao Xue et al., 2023). To understand how ARIT devices moderate customer engagement, this paper will apply the Service-Dominant Logic (S-D Logic) (Vargo and Lusch, 2004) aligned with customer engagement (CE) (Hollebeek *et al.*, 2019) framework to understand the antecedents and consequences of Customer Co-creation (CCO). CCO is one of the key benefits of CE, in this framework, driven by Customer Knowledge Sharing (CKS). AR in fashion has the potential to reduce environmental impact. (Saliha, 2024). However, is the AR's role in driving sustainable purchases in fashion still maturing? (Usman et al., 2024). To understand how customer engagement in the fashion industry can be driven for sustainable purchases, this paper will study the consequences of CCO in driving Sustainable Purchases. The moderating effect of ARIT on this novel relationship will also be empirically studied. Table 1 lists some of the key papers in the area of CE, particularly in CKS, CCO, and Sustainable Purchase within the context of ARIT-driven fashion shopping. The table highlights the research gap, that there is hardly any evidence of an empirical study of (1) CKS driving CCO, within the context of ARIT-driven fashion shopping (2) and any study of Sustainable Purchase through the lens of CCO, within the context of ARIR-driven fashion shopping. This paper will study in Step 1: the existing literature between 2019 and 2024 on S-D/CE, specifically the studies on the antecedents and consequences of CCO, namely CKS and Sustainable Purchase respectively. Identify the theoretical associations to explain these relationships. Step 2: an empirical study of these relationships within the context of ARIT-driven fashion shopping. The paper will record its findings on whether ARIT-driven fashion shopping has matured and improvements that may be required if ARIT is still in its early stages of application. Respondents will be from the USA, considering the region has the largest share of the current AR market. India as an emerging market will also be studied. A 7-point Likert scale questionnaire will be administered on the Prolific platform.

Table 1: Research Gap

Author(s)	Background of study	Variables explored	Methodology	Study context	Research Gap
Nidhi, et al., 2024	Proposes an app to educate customers on sustainable practices in the fashion industry	Studies the level of awareness among fashion shoppers about sustainable practices	Survey of 262 respondents	How to educate fashion shoppers about sustainable fashion	The paper proposes an app and highlights AR as an area of future research to provide knowledge about sustainable practices in fashion.
Sukhvir, 2024	A literature review to understand the impact on AI (Artificial Intelligence) in the fashion industry.	AI-driven design, sustainability	Looks at consumer insights and market trends. Uses sentiment analysis and social media monitoring tools.	Looks at virtual try-ons, personalized recommendations, and AI-driven design and supply chain optimization	The paper finds that AI enhances customer experience in the fashion industry and co-creative designs. No quantitative analysis and no CE framework were proposed.
Weiwei, et al., 2024	Literature review & survey on how AR feature of interactivity can improve CE with the brand.	AR interactivity, perceived brand authenticity, eWOM, and social presence	368 respondents were administered a questionnaire.	AR as a marketing channel, will improve brand engagement.	AR will improve customer-brand engagement. AR will have a similar impact online as in the store. And also improve word of mouth (eWoM). Customer Brand Management has been taken as an item, instead of looking at the various foundational processes that constitute the engagement as in the S-D/CE framework,

					used in this paper.
Basak, et al., 2024	Literature Review of AR, VR (Virtual Reality), chatbots, and AI in Fashion.	AI-driven sales, Customer Interactive	Systematic Literature review	Looks at multiple AI technologies including AR devices to improve interaction with customers. .	Proposes AI should be integrated into selling viz., chatbots, search technologies, and AI consultants. At the core of this research, it proposes to improve customer-AI interactivity. Proposes co-creation as a route to build the AI ecosystem.
Yujeong, et al., 2024	Study comparing 3D-VR (three-dimensional Virtual Reality) store with 2D (two-dimensional) website.	Usefulness, diversity, functionality, reliability, and tangibility as qualities of technology systems that will impact sustainable consumption	A survey was administered to 270 women respondents.	Technology impact on customer to drive sustainable fashion consumption.	Proposes interactivity as promoting sustainable fashion consumption. The paper does not discuss the sustainable purchase or augmentation of AR devices. Study limited to women.
Thandayuthapani, et al., 2025	AR enhancing CE, sustainable shopping practices, and AR interactivity.	Customer satisfaction. Engagement. Immersive experience.	Literature review	How AR can drive customer engagement, sustainable purchases, in a retail environment.	The paper proposes future research, sustainability using AR. The paper does literature review with empirical study on the topic of fashion shopping. The paper is also limited to retail stores and not online

					shopping.
Sai, et al., 2024	Discusses the benefits and challenges of XR (Extended Reality) for retailers, in engaging customers to purchase.	Extended Reality, Virtual Reality, Augmented Reality, Mixed Reality, Customer Engagement	Literature review.	How XR (Extended Reality), can enhance customer engagement in a retail environment.	Limited to a literature review that proposes that AR can enhance customer engagement.
Qian, 2024	CE research is manifested as a means to influence consumption experiences, customer engagement in social media, customer engagement as a strategy to win customers, differences in customer engagement behaviour, customer relationship management through customer engagement, and customer engagement in electronic commerce.	Virtual Production and Virtual Display of Fashion	Bibliometric analysis of 861 CE articles	Customer engagement themes Purpose(s) of MI Actors impacted by MI	This paper proposes as future research to study impact of AI and Augmented Reality on CE. The paper also proposes study of sustainable consumption and building customer awareness.
Mariani, *et al.*, 2023	AR, VR, XR to drive virtual production and virtual display of fashion clothing for personalized production and enhancing interactivity, respectively.	Smart Clothing, Fabric Digitization, Fitting.	Literature Review of AR, VR, XR systems and software in the fashion industry.	Driving innovation in production through VR. Driving immersive experience through virtual display and fitting of fashion clothes	Limited to literature review. It proposes interactive feature of AR as a lever for driving customer experience.

2. LITERATURE REVIEW

2300 papers from the Web of Science and papers from Scopus have been identified from 2019 to 2024. The keywords used included eWOM, knowledge sharing, co-creation, sustainable purchase, fashion shopping, smart glasses, bright fitting rooms, interactive mirrors, and augmented reality. JBR, JRCS, JRIM, and JSM were the top 4 relevant journals. Bibliometric analysis was applied. The three-field plot showed Hollebeek as one of the top contributing authors. The S-D/CE framework (Hollebeek et al., 2019) was cited nearly 500 times and serves as the basis for this paper. The Co-occurrence network showed research centered around sustainability. This was the motivating reason for the novel construct of studying sustainable purchases as an outcome of customer co-creation. See Figure 1.

Figure 1

The author's keyword cluster shows co-creation and a theme that can be developed further. Sustainability as an emerging area. See Figure 2.

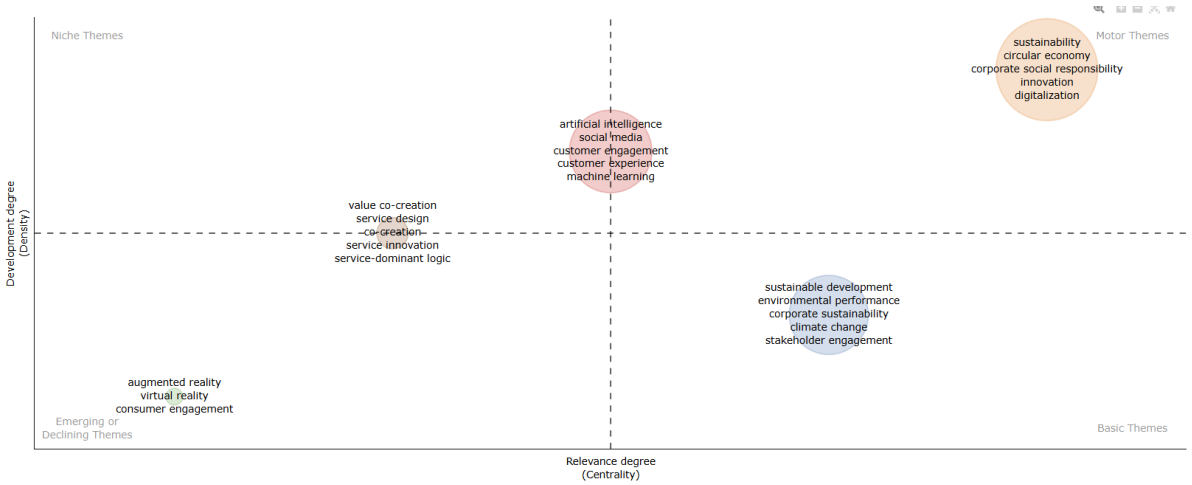

Figure 2

The literature review motivated this research to extend the S-D/CE framework to investigate sustainability. The next step was to understand if this extended research interest had the support of theoretical associations of sustainability with Customer Co-Creation and Customer Knowledge Sharing.

3. THEORETICAL BACKGROUND & HYPOTHESES

3.1 Service-Dominant Logic-Informed Customer Engagement

The *S-D logic* (Vargo and Lusch 2004) – *informed customer engagement, integrative framework* (Hollebeek et al. 2019)

proposed that customers have an inherent tendency to share knowledge about the brand with which they engage. They share knowledge with other customers, and other actors like the brand owner, suppliers et al. Customer Knowledge Sharing (CKS) (Ho and Ganesan 2013; Kumar and Pansari 201) is one of the key foundational processes in customer engagement, within this framework. CKS drives customers to co-create or co-produce with the brand owner. Help other customers, share brand-related information and brand advocacy. Customer Co-creation (CCO) (Vargo and Lusch 2008a, 2016; Ranjan and Read 2016) is therefore one of the key benefits of this customer engagement framework.

3.2 Customer Knowledge Sharing through the lens of Social Exchange Theory

Social Exchange Theory explains that interactions between individuals lead to them making commitments. (Emerson 1976). These interactions are reciprocal. (Blau, 1964). Customers share their experiences and knowledge with others. (O'Reilly and Chatman, 1986). Similarly, customers feel a responsibility to share their experiences and knowledge with others. (Ting-Peng et al 2008). There is a level of commitment employees feel towards their organization that leads to their interaction with others. Similarly, Customer Knowledge Sharing shows a commitment and purpose in individual customers to help others. (Hollebeek et al. 2019). Trust is key to social exchange, similar to customers who share knowledge because they trust the recipient(s). (Ting-Peng et al 2008). If adequate incentives are provided then members in a group will be motivated to perform and behave in desired ways. (Lee and Kim, 2001). Customer Knowledge Sharing can be enhanced through a mechanism of rewards. (Ting-Peng et al 2008).

3.3 Customer Co-Creation

Customer Co-creation is a voluntary process in which customers decide to invest. (Yi and Gong, 2013). Their intimacy with the brand and the entire shopping experience, especially using novel AR devices, motivates them to advocate to other customers. Similarly, customers may volunteer to help other customers in the shopping experience, guiding them to use the ARIT device for fashion shopping. Customers may also share ideas, with other actors, to enhance the overall shopping experience. Based on the S-D/CE framework, we shall empirically study the relationship between Customer Knowledge Sharing (CKS) and the three domains of Customer Co-creation viz. Advocacy, Development, and Helping.

H1a: Customer Knowledge Sharing has a positive impact on Customer Co-Creation Advocacy

H1b: Customer Knowledge Sharing has a positive impact on Customer Co-Creation Development

H1c: Customer Knowledge Sharing has a positive impact on Customer Co-Creation Helping

3.4 Sustainable Fashion

There is significant literature on sustainable fashion. Looking at the ethics of buying clothes that are environment friendly. (Reimers et al., 2016), where the manufacturing process followed by the fashion brand is environmentally friendly. (Zarley Watson, 2013). Using clothes for a longer period, instead of disposing of them quickly. (Niinimäki, 2010). Made to fit clothes. (Brismar, 2019). There are various domains of sustainability including the impact on the environment, social impact, purchasing decisions, and use and disposal of clothing. (Schahn and Holzer, 1990). This study will focus on the sustainable purchase domain, within the context of fashion shopping.

3.5 The Theoretical association of Sustainability with customer co-creation

Sustainability may be a non-financial benefit that the fashion brand may pursue to attract customers to buy their products. This key aspect of the fashion brand and its products must be communicated to customers. Open innovation (Chesbrough et al., 2003) provides the background. It proposes how organizations (fashion brands) can spread knowledge to customers and hence to sustainability as a mindful purchase decision. Co-creation can be a process of driving this knowledge to customers and hence the mode of spreading information about the sustainability goals of the brand (Lüthje and Herstatt, 2004). Open Innovation provides a sense of purpose to its customers and motivates them to buy such products. Co-creation builds awareness and acceptance among customers. (Urban and von Hippel, 1988). Quick wins are key to spreading knowledge. Co-creation process involves collaboration and learning goals. (Zwass, 2010; von Hippel, 2005). Building sustainability into the fashion brand's value proposition can be accelerated by involving customers in product development. (Prahalad and Ramaswamy, 2004). Co-creation similarly relies on adding more actors (customers) in its collaborative intent. Collaboration between the organization (fashion brand) and its customers using different tools (e.g. AR) allows the integration of brand and customer competencies. (Hoffmann, 2007). Co-creation similarly highlights customers and product companies as shared innovators. (von Hippel, 1988). Environmental and social goals are best achieved through brand-customer co-creation. (Arnold, 2010; Hoffmann, 2007). The theoretical associations lead to the following hypotheses to be investigated empirically.

H2a: Customer Co-creation Advocacy has a positive impact on Sustainable Purchase

H2b: Customer Co-creation Development has a positive impact on Sustainability Purchas

H2c: Customer Co-creation Advocacy has a positive impact on Sustainable Purchase

3.6 Impact of ARIT device on fashion shopping

Customers can virtually try on clothes using AR (Augmented Reality) devices, in the retail store, or while shopping online.

They can try multiple clothing items to create an ensemble. (Pachoulakis, et al., 2012). The interactive feature of ARIT allows customers to communicate with other customers. (Javornik, 2016). Customers can wear shoes and walk around in the home or work settings, using the augmentation feature of ARIT. (Yim et al., 2017). Augmentation allows near-real experiences. (Preece et al., 2015). Customers feel emotionally charged using the interactive capabilities of ARIT. (Wu, 2006). The paper will therefore study the interactive and augmentative features of ARIT as moderators in fashion shopping, to see the effect of ARIT in strengthening the relationship between Customer Knowledge Sharing and Customer Co-creation, and Customer Co-creation in driving Sustainable Purchases.

H3a: Effect of Customer Knowledge Sharing on Customer Co-Creation Advocacy is stronger in the case of Customer's perceived interactivity towards ARIT device

H3b: Effect of Customer Knowledge Sharing on Customer Co-Creation Development is stronger in the case of Customer's perceived interactivity towards ARIT device

H3c: Effect of Customer Knowledge Sharing on Customer Co-Creation Helping is stronger in the case of Customer's perceived interactivity towards ARIT device

H4a: Effect of Customer Co-Creation Advocacy is stronger on Customer Sustainable Purchase in case of Customer's perceived augmentation towards ARIT device

H4b: Effect of Customer Co-Creation Development is stronger on Customer Sustainable Purchase in case of Customer's perceived augmentation towards ARIT device

H4c: Effect of Customer Co-Creation Helping is stronger on Customer Sustainable Purchase in case of Customer's perceived augmentation towards ARIT device

4. CONCEPTUAL FRAMEWORK

The conceptual framework is shown in Figure 3.

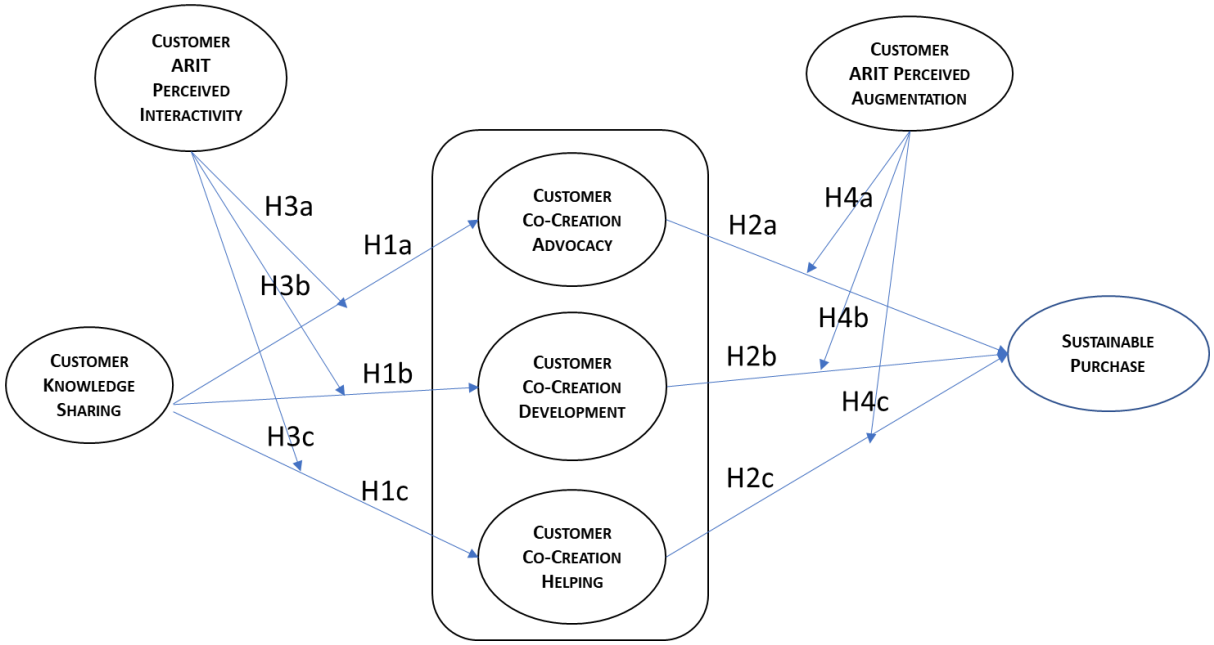

Figure 3: Conceptual Model

The model will empirically study the relationship between Customer Knowledge Sharing (CKS) with Customer Co-Creation domains of Advocacy (CCA), Development (CCD), and Helping (CCH). This relationship is based on the Service-Dominant Logic/Customer Engagement Framework (S-D/CE). (Hollebeek et al., 2019). Based on the literature review and the theoretical association, Open Innovation (Chesbrough et al., 2003), we will empirically investigate the relationship between Customer Co-creation and Sustainable Purchase. The moderating effect of ARIT's interactive and augmentation functions on the relationships between CCK and Customer Co-creation, and Customer Co-creation on Sustainable Purchase (SP) respectively, will also be investigated.

5. METHODOLOGY

5.1 Data Collection

Data was collected from 316 individuals, 282 living in the USA and 34 in India. Individuals who have used an ARIT device

and shop online for fashion. Data was collected on the Prolific platform. A questionnaire was created on the Survey Monkey platform, and administered on the Prolific platform. Table 2 shows the demographic profile of the participants.

Demographics	Frequency	%
Gender		
Male	185	58.5
Female	131	41.5
Age		
18-24	40	12.7
25-34	106	33.5
35-44	102	32.3
45 or older	68	21.5
Education		
No high school degree	1	0.3
High school graduate	29	9.2
Some college	56	17.7
Four Year degree	105	33.2
Graduate degree	79	25.0
Professional degree	46	14.6
Income		
Less than $25,000 / INR 2,50,000	14	4.4
$25,000 - $50,000 / INR 2,50,000 - INR 5,00,000	62	19.6
$50,001 - $100,000 / INR 5,00,000 - INR 10,00,000	102	32.3
$100,000 or more / INR 10,00,000 or more	138	43.7
ARIT Device used for fashion shopping		
Augmented Reality Smart Glass	190	60.1
Smart Fitting Room	85	26.9
Interactive Mirror	39	12.3
Others	2	0.6
For how long have you been using ARIT Device		
Less than 6 months	100	31.6
6 months – 1 year	108	34.2
1-2 years	72	22.8
More than 2 years	36	11.4
How frequently do you use an ARIT device, in a month		
1-5 times	193	61.1
6-10 times	74	23.4

11-15 times	21	6.6
more than 15 times	28	8.9
How frequently do you use an ARIT device for fashion shopping		
About once per week	26	8.2
More than once a week	32	10.1
Several times a month	93	29.4
About once a month	64	20.3
Once in a few months or longer	101	32.0

Table 2: Respondent demographics. Source: Authors' own work

5.2 Measurement instrument

The scales were used from previous studies. The administered questionnaire contained 33 items, excluding questions on demographics, and was measured using a 7-point Likert scale from 'Strongly Agree' to 'Strongly Disagree'. See the Appendix for the scales. In the Customer Knowledge Sharing construct 4 items were used (Munar et al, 2014). Perceived Interactivity 9 items (Cyr et al, 2009), Sustainable Purchase 3 items (Sunyang Park and Yuri Lee, 2021), Perceived Augmentation 5 items (Javornik 2016)., Customer Co-Creation (Yi and Gong 2013) comprising Customer Co-creation Advocacy 4 items, Development 5 items, and Helping 3 items.

5.3 Common method variance bias

Harman's Single Factor Test was performed by applying principal component factor analysis. The maximum variance by a single factor was below the threshold of 50%. In addition, the Common Latent Factor (CLF) was used to capture the common variance among all the observed variables in the model. The standardized regression weights from this model were compared to the model without CLF. All differences were below 0.20 establishing therefore that there is no common method bias.

6. RESULTS

Data collected from the respondents was analyzed using SEM (Structural Equation Modeling) - AMOS version 30.0 and SPSS version 29.0.

6.1 Measurement model

Using IBM SPSS, Cronbach's alpha for all items was reported to have exceeded 0.70 confirming reliability (Hair et al., 2017). The CFA (Confirmatory Factor Analysis) model was created in AMOS and checked for model fit. CMIN/DF was reported as 2.045 (less than 3.0 as good, Hair et al., 2019). Baseline comparisons of IFI (0.952), TLI (0.944), CFI (0.952), and NFI (0.910). All greater than 0.9 (Meyers et al., 2005) shows goodness of fit. RMSEA (0.058) is less than 0.08 and shows a good fit (Meyers et al., 2005). SRMR (0.0614), less than 0.09 shows a good fit (Hair et al., 2009). The goodness of fit was established. Regression weights for all items showed p-value (<0.001) significant. Standardized Regression Weights showing Factor Loading for all items was greater than 0.5 (Hair et al., 2010). See Table 3. Both convergent and discriminant validity were established. See Table 4. Convergent Validity: the AVE (Average Variance Extracted) for all items was greater than 0.50 (Fornell and Larcker, 1981). Discriminant validity was assessed by analyzing the square root of AVEs (Fornell and Larcker, 1981). The square root of AVEs for each latent construct exceeded their respective correlation values and were more than 0.70, ensuring discriminant validity (Hair et al., 2019). Overall, the measurement items satisfied the reliability and validity criteria.

Table 3: p-value and factor loading

			P-Value	Factor Loading
CKS4	<---	CKS	***	0.788
CKS3	<---	CKS	***	0.834
CKS2	<---	CKS	***	0.846

CKS1	<---	CKS	***	0.837
CCA4	<---	CCA	***	0.842
CCA3	<---	CCA	***	0.926
CCA2	<---	CCA	***	0.903
CCA1	<---	CCA	***	0.867
PA4	<---	PA	***	0.845
PA3	<---	PA	***	0.835
PA2	<---	PA	***	0.829
PA1	<---	PA	***	0.504
SP3	<---	SP	***	0.713
SP2	<---	SP	***	0.938
SP1	<---	SP	***	0.864
PIN6	<---	PIN	***	0.754
PIN5	<---	PIN	***	0.72
PIN9	<---	PIN	***	0.813
PIN8	<---	PIN	***	0.812
PIN7	<---	PIN	***	0.81
CCD1	<---	CCD	***	0.67
CCD2	<---	CCD	***	0.896
CCD3	<---	CCD	***	0.937
CCD4	<---	CCD	***	0.854
CCD5	<---	CCD	***	0.824
CCH1	<---	CCH	***	0.828
CCH2	<---	CCH	***	0.908
CCH3	<---	CCH	***	0.874

Table 4: Construct and Discriminant Validity

	CR	AVE	MSV	MaxR(H)	CCD	CKS	CCA	PA	SP	PIN	CCH
CCD	0.923	0.708	0.503	0.944	**0.841**						
CKS	0.829	0.708	0.643	0.829	0.709	**0.842**					
CCA	0.935	0.783	0.567	0.941	0.563	0.806	**0.885**				
PA	0.846	0.588	0.461	0.880	0.290	0.479	0.544	**0.767**			
SP	0.880	0.712	0.320	0.919	0.391	0.521	0.566	0.364	**0.844**		
PIN	0.888	0.613	0.461	0.891	0.144	0.411	0.519	0.679	0.307	**0.783**	

CCH	0.904	0.758	0.643	0.910	0.658	0.802	0.753	0.389	0.531	0.334	**0.871**

6.2 Structural model

The Structural Equation Model (SEM) was created in AMOS using the CFA model and tested for the goodness of fit. CMIN/DF was reported as 2.068 (less than 3.0 as good, Hair et al., 2019). Baseline comparisons of IFI (0.950), TLI (0.942), CFI (0.949), and NFI (0.907). All greater than 0.9 (Meyers et al., 2005) shows goodness of fit. RMSEA (0.058) is less than 0.08 and shows a good fit (Meyers et al., 2005). SRMR (0.0631), less than 0.09 shows a good fit (Hair et al., 2009). The goodness of fit was established. The direct effects of Customer Knowledge Sharing on Customer Co-Creation, and Customer Co-creation driving Sustainable Purchases, in fashion shopping are studied. H1a: Customer Knowledge Sharing has a positive effect in driving Customer Co-Creation Advocacy (0.802, $p<0.001$). H1b: Customer Knowledge Sharing has a positive effect in driving Customer Co-Creation Development (0.781, $p<0.001$). H1c: Customer Knowledge Sharing has a positive effect in driving Customer Co-Creation Help (0.869, $p<0.001$). H2a: Customer Co-Creation Advocacy has a positive effect in driving Sustainable Purchase outcomes in fashion shopping (0.328, $p<0.001$). H2b: Customer Co-Creation Development does not affect driving Sustainable Purchase outcomes in fashion shopping. H2c: Customer Co-Creation Help has a partial positive effect in driving Sustainable Purchase outcomes in fashion shopping (0.188, $p<0.05$). See Table 5.

The moderating effect of Customer's Perceived Interactive of ARIT devices and Customer's Perceived Augmentation of ARIT device while fashion shopping is studied. See Table 6. H3a: Customer's Perceived Interactivity of ARIT has a negative impact on the relationship between Customer Knowledge Sharing and Customer Co-Creation Advocacy. See Figure 4. H3b and H3c: Customer's Perceived Interactivity of using the ARIT device in fashion shopping does not have a moderating effect on the relationship between Customer Knowledge Sharing and Customer Co-Creation (Development and Habit respectively). H4a, H4b, H4c: Customer's Perceived Augmentation of using ARIT devices for fashion shopping has no moderating effect on the relationship between Customer Co-Creation Advocacy, Development, and Habit, respectively in driving Sustainable Purchases. Table 6: Moderating Effects. See Figure 5.

Table 5: Direct effects

				Estimate	**p=value**	**Hypothesis Supported (Yes/No)**
H1a	CCA	<---	CKS	.802	***	Yes (+)
H1b	CCD	<---	CKS	.781	***	Yes (+)
H1c	CCH	<---	CKS	.869	***	Yes (+)
H2a	SP	<---	CCA	.328	***	Yes (+)
H2b	SP	<---	CCD	.058	0.372	No
H2c	SP	<---	CCH	.188	0.014*	Partial (+)

CCA=Customer Co-creation Advocacy, CCD= Customer Co-creation Development, CCH=Customer Co-creation Helping, SP= Sustainable Purchase

* $p<0.05$ (Partial), ** $P<0.01$ (Partial), ***$p<0.001$ (Yes)

Table 6: Moderating effects

				Estimate	**p=value**	**Hypothesis Supported (Yes/No)**
H3a	CCA	<---	PIN_CKS	-0.075	0.006**	Yes (+)
H3b	CCD	<---	PIN_CKS	0.025	0.464	No
H3c	CCH	<---	PIN_CKS	0.043	0.122	No
H4a	SP	<---	PA_CCA	-0.104	0.118	No
H4b	SP	<---	PA_CCD	-0.087	0.213	No
H4c	SP	<---	PA_CCH	0.131	0.088	No

CCA=Customer Co-creation Advocacy, CCD= Customer Co-creation Development, CCH=Customer Co-creation Helping, SP= Sustainable Purchase, PIN_CKS= moderating effect of Perceived Interactivity of ARIT on the relationship between CKS and CCA, CCD, and CCH. PA_CCA, PA_CCD, PA_CCH = Moderation effect of Perceived Augmentation on the relationship between CCA, CCD, and CCH with SP.

* p<0.05 (Partial), ** P<0.01 (Partial), ***p<0.001 (Yes)

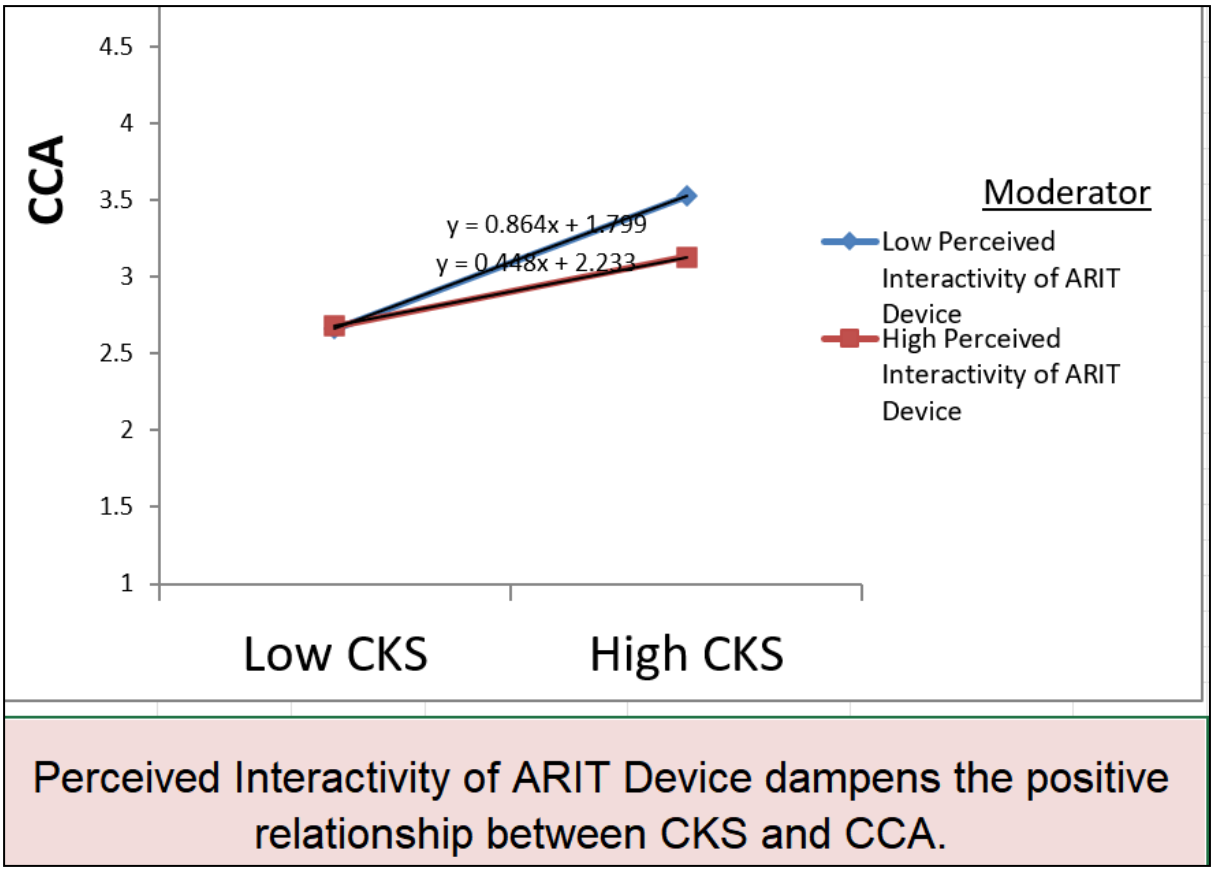

Figure 4: Interaction effect of Perceived Interactivity on the relationship between CKS and CCA

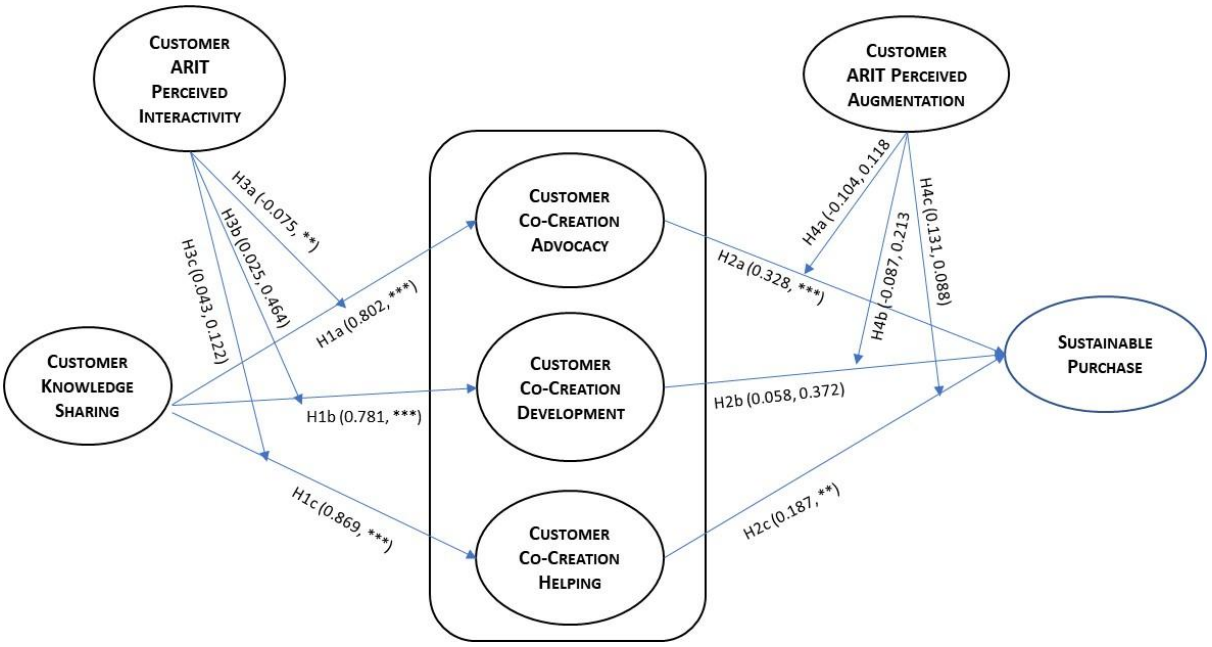

Figure 5: Hypotheses testing of conceptual model

7. DISCUSSION AND IMPLICATIONS

Based on the results, the service-dominant aligned customer engagement (S-D/CE) framework (Hollebeek, et al., 2019) is empirically tested and is in line with the framework. Customer Knowledge Sharing drives Customer Co-creation domains of Advocacy (H1a), Development (H1b), and Helping (H1c). This paper is the first empirical study of the S-D/CE framework. Post bibliometric analysis of the literature, the paper presented a novel conceptual model, with Customer co-creation driving Sustainable Purchase as an outcome. Our results show a positive impact of Customer co-creation Advocacy and Helping in driving Sustainable Purchases (H2a and H2c). Customer co-creation Development has no effect in driving Sustainable Purchases. Co-creation Development looks at the aspects of customers creating new products, new ideas, advertisements, and online content about the fashion brand in the context of using ARIT for fashion shopping. These consumer behaviors did not produce the outcome of sustainable purchases. ARIT's ability to facilitate customer co-creation aspects of producing new products, ideas, and content is still in the infant stage. (Saifeddin, et al., 2022). ARIT's ability to help customers co-produce is still in the developmental stage. (Rahul, 2024). The aspects of co-creation or co-production by using ARIT are still maturing. (Nadhrathul, et al., 2024). Our results therefore of ARIT not yet supporting Customer co-creation Development are in line with some of the previous and recent studies. We are still some years away from enhancing the Development domain of customer co-creation in fashion shopping using ARIT. H4a, H4b, H4c, the moderating effect (or the lack of it) of Perceived Augmentation of ARIT echoes the recent study results. Technical challenges in AR, suggest further development. (Pratik, et al., 2025). Distortion of graphics in AR. (Duck-Ki Ahn, et al., 2023). AR needs to be more user-friendly, for example, accurate body scanning. (Mingzhe Yu et al., 2024). Perceived Augmentation of AR, needs to still mature and hence the results show that it has no effect yet on outcomes like Sustainable Purchase, as in the conceptual model. H3a, results, and Figure 4 show that the Perceived Interactivity of ARIT devices can dampen the relationship between CKS and CCA. This result points to the dark side of AR. The amount of information that the augmentation feature of ARIT can provide can also overwhelm the customer and lead to disengagement, especially when there is information overload on topics like sustainability. (Stefan, et al., 2022). The effect of Perceived Interactivity of ARIT on CCD and CCH (H3b and H3b) is similar to the need for ARIT to mature and develop to allow customers to co-create new products, ideas and content, and help other customers.

8. CONTRIBUTIONS

8.1 Contribution to Academia

This paper empirically tests the relationship between Customer Knowledge Sharing (CKS) and the three domains of Customer co-creation. This relationship is based on the S-D/CE framework (Hollebeek, et al., 2019). Moreover, the paper develops a novel construct extending the S-D/CE framework to drive Sustainable Purchases as an outcome in fashion shopping. The paper investigates the moderating impact of ARIT on these relationships and the findings show that the current hype and projected forecast for ARIT in fashion needs a lot of work, as it is still immature and there are technical challenges. Some aspects like the Perceived Interactivity of ARIT may be overwhelming for customers and may lead to customer disengagement. The novel construct expands the benefit of CE, as discussed in the S-D/CE framework to its three domains of Advocacy, Development, and Helping. Understanding the CCO construct, and testing it empirically.

8.2 Contribution to Practice

Practitioners will realize that features of ARIT still need development, viz interactivity and augmentation. The development of these features should also be provided to customers in the right measure so that customers are comfortable using them and do not disengage. Co-creation is an important aspect that brings customers closer to the fashion brand. CCD and CCH can be enhanced through significant development of AR in fashion. AR has the potential to drive sustainable purchases, however, customers must find ARIT user-friendly and easy to navigate. Sustainability is a business imperative in the industry and ARIT can catalyze this goal for brands if actively developed.

9. LIMITATIONS AND FUTURE RESEARCH

The current study looks at one foundational process and one benefit of the S-D/CE framework, viz., Customer Knowledge Sharing and Customer co-creation respectively. The other foundational processes and benefits can also be studied empirically. Moreover, based on the bibliometric analysis of the literature, outcomes like innovation emerged for further study. The novelty of studying innovation as an outcome of Customer co-creation can be investigated. Other aspects of ARIT like utilitarian features, adoption intention, technology anxiety, or ARIT resistance as moderators may also be studied.

REFERENCES

[1] Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. In Source: MIS Quarterly (Vol. 36, Issue 1).

[2] Ostlund, L. E. (1974). Perceived Innovation Attributes as Predictors of Innovativeness. In Source: Journal of Consumer Research (Vol. 1, Issue 2). https://www.jstor.org/stable/2489103

[3] Vargo, S. L., Akaka, M. A., & Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. Journal of Business Research, 116, 526–534. https://doi.org/10.1016/j.jbusres.2020.01.038

[4] France, C., Grace, D., Merrilees, B., & Miller, D. (2018). Customer brand co-creation behavior: conceptualization and empirical validation. Marketing Intelligence and Planning, 36(3), 334–348. https://doi.org/10.1108/MIP-10-2017-0266

[5] Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). S-D logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 47(1), 161–185. https://doi.org/10.1007/s11747-016-0494-5

[6] Lee, H., Xu, Y., & Porterfield, A. (2021). Consumers' adoption of AR-based virtual fitting rooms: from the perspective of theory of interactive media effects. Journal of Fashion Marketing and Management, 25(1), 45–62. https://doi.org/10.1108/JFMM-05-2019-0092

[7] Park, S., & Lee, Y. (2021). Scale development of sustainable consumption of clothing products. Sustainability (Switzerland), 13(1), 1–20. https://doi.org/10.3390/su13010115

[8] Arnold, M. (2017). Fostering sustainability by linking co-creation and relationship management concepts. Journal of Cleaner Production, 140, 179–188. https://doi.org/10.1016/j.jclepro.2015.03.059

[9] Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). S-D logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 47(1), 161–185. https://doi.org/10.1007/s11747-016-0494-5

[10] Lee, H., Xu, Y., & Porterfield, A. (2021). Consumers' adoption of AR-based virtual fitting rooms: from the perspective of theory of interactive media effects. Journal of Fashion Marketing and Management, 25(1), 45–62. https://doi.org/10.1108/JFMM-05-2019-0092

[11] Bogers, M., Chesbrough, H., & Strand, R. (2020). Sustainable open innovation to address a grand challenge : Lessons from Carlsberg and the Green Fiber Bottle. British Food Journal, 122(5), 1505–1517. https://doi.org/10.1108/BFJ-07-2019-0534

[12] Lee, H., Xu, Y., & Porterfield, A. (2021). Consumers' adoption of AR-based virtual fitting rooms: from the perspective of theory of interactive media effects. Journal of Fashion Marketing and Management, 25(1), 45–62. https://doi.org/10.1108/JFMM-05-2019-0092

[13] Yan, Z., Wang, T., Chen, Y., & Zhang, H. (2016). Knowledge sharing in online health communities: A social exchange theory perspective. Information and Management, 53(5), 643–653. https://doi.org/10.1016/j.im.2016.02.001

[14] Baima, G., Santoro, G., Pellicelli, A. C., & Mitręga, M. (2022). Testing the antecedents of customer knowledge sharing on social media: a quantitative analysis on Italian consumers. International Marketing Review, 39(3), 682–705. https://doi.org/10.1108/IMR-03-2021-0122

[15] Lee, H., Xu, Y., & Porterfield, A. (2021). Consumers' adoption of AR-based virtual fitting rooms: from the perspective of theory of interactive media effects. Journal of Fashion Marketing and Management, 25(1), 45–62. https://doi.org/10.1108/JFMM-05-2019-0092

[16] Park, S., & Lee, Y. (2021). Scale development of sustainable consumption of clothing products. Sustainability (Switzerland), 13(1), 1–20. https://doi.org/10.3390/su13010115

[17] Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2019). S-D logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 47(1), 161–185. https://doi.org/10.1007/s11747-016-0494-5

[18] Bogers, M., Chesbrough, H., & Strand, R. (2020). Sustainable open innovation to address a grand challenge : Lessons from Carlsberg and the Green Fiber Bottle. British Food Journal, 122(5), 1505–1517. https://doi.org/10.1108/BFJ-07-2019-0534

[19] Ostlund, L. E. (1974). Perceived Innovation Attributes as Predictors of Innovativeness. In Source: Journal of Consumer Research (Vol. 1, Issue 2). https://www.jstor.org/stable/2489103

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