Unveiling the Puzzle of Social Media Adoption Among Small Grocery Retailers:
Perspectives and Evidence Through Mixed Methods Approach

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ABSTRACT

This research is aimed to understand the intentions of small grocery retailers in adopting social media for marketing purposes. The research used an integrated TAM-TOE framework combined with an SOR framework for understanding factors influencing the intention of small grocery retailers to adopt social media. Mixed methods were used for the study. Initially, in-depth interviews were conducted with 55 retailers to develop a grounded model, which was verified through a survey of 874 retailers. Findings suggest that perceived usefulness and perceived ease of use were positively related to relative advantage, interaction, organizational competency and complexity, bandwagon effect, and competitive pressure. Retailer age and retail outlet also had moderation effects. Small grocery retailers who understand the relative advantage of social media are more likely to adopt it, influenced by the bandwagon effect. Intense competition is also pushing retailers to adopt social media to avoid losing customers and missing out on potential opportunities.

KEYWORDS

TOE Framework, TAM, SOR Framework, Small Grocery Retailers, Social Media, Intention to Adopt Technology, Bandwagon Effect, India

1. INTRODUCTION

As customers are increasingly searching for and buying products online, the use of digital tools and social media for marketing and promotion has increased across various industries (Halawani et al., 2020; Dash et al., 2023), including retail. Small retailers, however, face challenges in the digital age since online retailers take a share of physical stores (Ziaullah et al., 2017; Kumar et al., 2023; Verma et al., 2023). For this study we have chosen Indian retailers due to various reasons. Asia is the biggest market for Grocery with 36.6% share in world's revenue of $12,266.7 billion (GVR, 2020).

Two major consumers from Asia are China and India. China is already the biggest adopter of online retailing. With a total market of $719.44 billion India is all set to follow the path. Its grocery market is expected to grow by 4% CAGR. The online penetration is expected to increase from 4.7% to 10.7% by 2024 (IBEF, 2024a; IBEF, 2024b). Moreover Indian grocery market is dominated by small retailers. This provides opportunity to understand overall behavior of small grocery retailers in adoption of social media specially when the country is witnessing transition from physical mode to hybrid mode.

In India, the *Kirana* (grocery) market comprises of approximately 13 million stores, making up 75% of the Indian consumer goods market. Even with traditional approaches, the COVID-19 pandemic pushed many retailers to go online, resulting in more than one million *Kirana* stores digitalizing (Schreiner & Baier, 2021). People in developing countries such as India spend about 2.36 hours on social media per day. The number of Internet users in India is 658 million, and 467 million are active social media users. This is approximately 50% of the 1.4 billion population (The Global Statistics, 2022). Overall penetration of online retailing is increasing along with smart user base (Figure 1). The Indian *Kirana* market comprises 75% of the Indian consumer goods market and counts for approximately 13 million stores (Focus, 2022). Its market size is $883 billion and is expected to reach 1.3 billion (Shashidhar, 2021). This study aims to investigate whether small retailers of developing countries are prepared to market with cheaper digital mediums such as social media and to examine the motivators and hindrances such retailers experience in adopting these platforms. While previous literature has focused on buyers' responses to digital marketing efforts by various businesses (Vatanasakdakul et al., 2020), there has been no research specifically on technology adoption by small retailers in the retail landscape (Hofacker et al., 2020; Uddin et al., 2021). To address this gap, the present research integrates the Technology Acceptance Model (TAM) and the Technology-Organization-Environment (TOE) framework to understand intentions for social media adoption among small retailers. The study investigates external factors from the TOE framework and internal factors from the TAM model to analyze the forces from the external environment in light of internal resources. The study's main contribution was integrating TAM-TOE for understanding the intentions of retailers for adopting social media. The findings have implications for retailers to adopt digitalization, which can make them more competitive in a challenging environment. The study highlights the need for further research on technology adoption by small retailers. The study's research objectives are to investigate small retailers' readiness to adopt digital mediums and the motivators/hindrances in adopting social media. The wide gap in the literature prompted the following research questions (RQs):

RQ1: Which are the major stimulus in adopting the social media platforms?
RQ2: Are small retailers intended to adopt social media platforms?
RQ3: Do age of retailer and age of retail outlet moderate the associations between organism and response strand of the SOR framework?

This study provides insights into small retailers' intentions for adopting social media, which can help them become competitive in the digital retail landscape. The integration of TAM-TOE provides a unique perspective on understanding small retailers' intentions to adopt social media technology. The next section discusses relevant literature on TAM-TOE and social media adoption, followed by the research methodology, results, and discussion. The study then presents implications, limitations and future research. It finally ends by providing some key conclusions.

2. BACKGROUND LITERATURE

2.1 Integrating TOE and TAM for Social Media Adoption

Organizations adopt social media for various benefits such as transaction efficiency and the promotion of customer loyalty and satisfaction (Lee & Chung, 2023; Misra et al., 2022; Chakraborty

et al., 2023). As content on social media is user-generated, customer engagement is highly natural and boosts promotion efforts (Gangwar et al., 2015a; Nam et al., 2024). Other benefits include strong communication based on information sharing and the development of strong network across the supply chain through managing relationships with partners (Bollweg et al., 2020; Odonkor & Pallud, 2022). The present research focuses on adopting social media and integrating the TOE and TAM models. These models help understand causes related to the adoption of technology by different firms (Aithal et al., 2023; Meng et al., 2024). One study highlighted that many social and environmental factors influence the adoption of social media (Anthony, 2020). Social media is a complex IT tool/medium with emotional and social dimensions that affect its reach. Many other theories apart from TAM were proposed regarding the acceptance of technology (Rong et al., 2022; Gupta & Panigrahi et al., 2022) among small retailers, such as the theory of diffusion of innovations (Rogers et al., 2014) and the unified theory of acceptance and use of technology (Venkatesh et al., 2003). TAM is preferred for many reasons. It is extensively used in IT and provides strong explanations for the acceptance of the technology (Chatterjee et al., 2021). Its components—perceived usefulness and perceived ease of use—explore the behavioral aspects of system adoption. perceived usefulness and perceived ease of use explain 40% of the reasons for adopting the technology (Ifinedo, 2011). The TOE framework can cover areas not assessable by the TAM, including external factors such as social and environmental factors (Wang et al., 2010; Polisetty et al., 2023; Pham et al., 2023). The TOE framework consists of three components: technological, organizational, and environmental. The technological component relates to technology (existing and new) that is relevant to the firm. The organizational component refers to the types, size, scope, and managerial levels of organizations. Environmental component is related to firms' external circumstances, such as the political, regulatory, and competitive contexts in which they operate. TOE was applied in the adoption of social media by SMESs (Qalati et al., 2021), cloud computing (Yang et al., 2015), and e-commerce (Idris, 2015), among others. To understand the adoption of social media by small retailers the integration of TAM-TOE was found to constitute the most suitable model.

2.2 Stimulus-Organism-Response (SOR) Framework

The TAM takes an internal perspective related to the adoption of technology. perceived ease of use and perceived usefulness partially explain adoption (Ifinedo, 2011). However, the model lacks the further constructs required to understand external factors influencing the adoption. The TOE framework widely covers aspects related to adoption, but its constructs are not well-defined (Wang et al., 2010). This paper has used SOR framework to obtain the best of both the TAM and TOE framework. In the present research, the organism (O=Retailer) perceives environmental stimuli (S=Technology), which then generates emotional reactions (R=Response in the form of adopting or not adopting the technology) (Mehrabian & Russell, 1974; Chakraborty 2023a; Chakraborty 2023b; Cui et al., 2022; Wang et al., 2022). The TOE framework represented the stimulus given, and TAM was used to describe O's perceptions regarding technology. The response component ('R') is measured by the construct, "intention to adopt". The SOR framework representes 'O' by measuring pleasure, arousal, and dominance (PAD). Despite certain contributions from this framework, the mechanism is questionable for its bipolar nature (Kim et al., 2016). The 'O' owns small retail stores in the present research work. 'O' is involved in the day-to-day activities, and O's opinion ultimately informs business strategy. Instead of applying the popular PAD approach, we have used TAM which focuses on decision-makers and the process followed by them in adopting technology (Bhatt, 2022).

3. EXPLORATORY STUDY (PHASE 1)

3.1 Research Methodology

We used a mixed methodology to attain our research objective. As the study demands qualitative as well as quantitative methods, the following mixed-method approach was considered appropriate to identify the elements influencing the adoption of social media. A qualitative study involving in-depth interviews with 55 small grocery retailers was conducted to understand the different aspects of social media adoption. In order to select 55 small grocery stores for data collection, a series of steps were implemented. At first, a thorough list of grocery stores in a particular area was put together by utilizing local business contacts, online listings, and enquiry. The list was filtered according to specific criteria including store size, and years in operation to pinpoint small-scale establishments. Following that, outreach activities were carried out such as making phone calls, sending emails, or meeting in person to verify the suitability and interest of the selected stores to take part in the data collection procedure. After identifying stores that met the criteria and showed interest, they were chosen to ensure a wide range of demographics, locations, and market segments were represented. After contacting the shortlisted stores, data collection sessions were scheduled to ensure a balanced and representative sample of 55 small grocery stores for the study. The excerpts—followed by the constructs in Fig. 1 and based on the findings of the qualitative investigation—were verified using survey tools. The research was combination of inductive and deductive approach, where researchers sought to identify small grocery retailers' intentions to utilize social media. Grounded theory was used to extend the research work.

3.2 Data Collection-Interview Phase

Before conducting interviews, an exploratory study was carried out to understand the aspects of social media adoption among small grocery retailers in India. The survey of 55 respondents was done using instruments consisting of open and close-ended questions. Retail outlets aged less than one to more than eleven years and age of retailers less than 25 to more than 55 years were included. Each respondent was interviewed twice; an average time of 45 minutes was allotted for each interaction. Demographic information (Table 1) was collected from the close-ended questions. 63% of respondents were in age group of 25 to 45 years, 60% retail outlets were aged above six years, 64% were males, 49% were graduates and 50% respondents were having income between $900 to $1500. The open-ended items enquired about opportunities and challenges in social media adoption: for example, "Please write why you intend to adopt social media" and "Which factors do you think are important to adopt social media?". The list of open ended questions is provided in Table 2 and the number of respondents who answered positively for these questions is mentioned. A literature review was completed before developing this interview questions (Dworkin, 2012), which supported the drafting of the relevant questions.

The integration of quantitative analysis within the qualitative research framework proved instrumental in uncovering underlying trends, as illustrated in Table 1. These patterns were subsequently explored through further quantitative investigation as detailed in sections 4 and 5. Notably, Table 1 documented predominantly affirmative responses to the survey questions (Q1 to Q10), indicating a favorable attitude towards social media usage during interviews. A positive response was defined as a minimum threshold of 60% "Yes" answers.

Across all age demographics, respondents exhibited a positive inclination towards utilizing social media platforms. However, when examining the age distribution of retail outlets, definitive conclusions were challenging to ascertain. Retail establishments aged below one year, those between six to ten years, and those exceeding eleven years displayed favorable attitudes towards social media adoption. Conversely, outlets aged between one to five years exhibited less enthusiasm for social media integration.

Table 1. Positive responses for social media adoption interview questions

Demographic Measures	Category	Count	Percent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Age of Retailer	< 25 years	10	18%	8	8	8	9	8	8	9	10	8	8
	25 - 35 years	15	27%	8	9	9	7	6	6	8	7	8	10
	35 - 45 years	20	36%	14	14	15	15	16	16	16	17	14	13
	45-55 years	4	7%	3	3	3	3	3	3	3	3	3	3
	55 years & above	6	11%	4	4	4	4	4	4	4	4	4	4
Age of Retail Outlet	Started below one year	12	22%	8	8	8	8	8	8	8	8	8	8
	One year to five years	10	18%	5	4	5	4	5	6	5	4	3	4
	Six years to ten years	15	27%	12	13	15	12	13	12	15	12	15	15
	Greater than eleven years	18	33%	11	13	11	14	11	12	11	14	12	13
Gender	Male	35	64%	28	30	27	30	27	29	28	30	28	28
	Female	20	36%	14	12	11	14	8	10	11	12	13	8
Educational Qualification	Completed high school	17	31%	12	13	11	12	7	8	9	8	9	8
	Graduate	27	49%	22	23	24	21	22	24	22	21	22	21
	Post Graduate	11	20%	11	11	11	11	10	10	11	10	11	10
Monthly income	Less than $600	08	15%	08	07	08	08	06	08	07	08	06	08
	$600-900	12	22%	10	9	9	9	8	9	8	9	8	8
	$900-1200	14	25%	9	9	10	11	12	12	12	13	12	11
	$1200- 1500	14	25%	10	10	10	12	12	10	12	12	10	10
	>$1500	07	13%	07	07	06	07	06	06	07	06	07	07

While male respondents expressed positivity towards social media usage, the sentiments among female participants were less definitive. Females acknowledged the utility and necessity of social media but found it challenging to navigate and learn. Their inclination towards adoption was also less pronounced. In contrast, older respondents displayed a keen interest in embracing social media platforms, whereas individuals with lower educational qualifications recognized its significance but encountered difficulties in acquiring the necessary skills, leading to hesitancy in adoption.

Notably, respondents across various income brackets expressed a shared interest in incorporating social media into their practices. This comprehensive analysis underscores the nuanced attitudes and perceptions towards social media adoption within different demographic segments, providing valuable insights for future research and strategic decision-making.

3.3 Data Analysis

For the data analysis, a method combining inductive and deductive approach was required. The data collected above were analyzed using Grounded Theory to develop a model by constant comparison, theoretical sampling, and theoretical saturation (Strauss & Corbin, 1994). The study used semi-structured questions based on literature insights guided by concepts like emergence, continuous comparison, theoretical sampling, and theoretical saturation (Walsh et al., 2015). Respondents' responses were constantly compared to both past and present facts, giving equal weight to historical and current literature. The selection of respondents was driven by theoretical sampling principles,

Table 2. Interview questions

SN	Broad question answered during interview
1	Do you intend to use social media? Is usage of Social media is advantageous in many aspects?
2	Is it important for continuous touch and communication?
3	Thinks that it is easy to promote on social media
4	Think that it is easy to use and less costly
5	Thinks that it is not difficult to learn usage and change the current practice
6	Thinks that it is good for current competitive environment
7	Thinks that overall environment is suggesting to use
8	Thinks that it is easy to use
9	Thinks that it is useful
10	Interested in adopting

with a concentration on data sources that made a major contribution to emerging theory. When no new ideas arose, the research used theoretical saturation to stop collecting information and include respondents. Initial interview transcripts were open-coded. The connected open codes formed a category of axial codes. The categories combined form selective codes. These codes were compared with existing literature to develop the grounded model. Finally, eight factors emerged after this exercise.

3.4 Conceptual Model Development

Eight factors explored after interviews were relative advantage, interaction, organizational competency and compatibility, organizational complexity, competitive pressure, bandwagon effect, perceived ease of use, and perceived usefulness. The present model indicates that grocery retailers' social media adoption is influenced by relative advantage and interaction, although only some antecedents recognized in this study have been examined before in different contexts (Zolkepli & Kamarulzaman, 2015). Similarly, a few studies have reported organizational competency & compatibility and organizational complexity as motivators, but their significance among small retailers needs to be addressed (AlSharji et al., 2018). Competitive pressure and the bandwagon effect have also been reported (Qalati et al., 2021); however, their implications among small grocery retailers are yet to be explored. The model focusing on small grocery retailers' context reflects the precursors perceived ease of use and perceived usefulness, which are crucial to social media adoption. The suggested model was additionally justified using exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM). Table 3 has described the opinions of respondents and constructs.

4. CONFIRMATORY STUDY (PHASE 2)

4.1 Hypotheses Development

The following section proposes hypotheses to validate the relationship between TOE factors, TAM factors, and the moderation effect of the variables ages of retail outlets and retailers in the adoption of social media.

4.1.1 Technological Constructs

Retailers are adopting innovative and smart technology to gain a competitive edge. Technology-related factors such as relative advantage, complexity, and interconnectivity play a

Table 3. Qualitative study codes

Open codes	Axial codes	Selective codes
Youngsters are making good money as they know how to tap market using IT tools. The understanding of tool helps in opening new markets..	Opportunities provided by social media	Relative Advantage
..way to advertise products on online platform is wonderful. The adjacent Kirana merchant's daughter has used social media to inform entire locality for availability of new harvest grains. I have same quality but don't know the right tool and loosing customer	Loss of business for not adopting social media	
Earlier I use to go for banners and paper inserts for any scheme launched. Now I use social media to approach community. It is saving my time, money and efforts. It is giving me better results in comparison to what I use to get in past	Promotion opportunities provided by social media	
Three years back I started in back lane. The invisibility was major issue. I placed direction boards but to no benefit. The usage of social media and sharing of location(GPS) made things easier. My shop is well known now.	Saving time money and efforts by usage of social media	
Once a customer enquired for bulk order of a product. I sent him picture of product and price details. He further enquired for some other brands and I sent him details of other variety. The incident was forgotten for a week. I again checked my account and send him a reminder along with new discount I may offer. The deal was finalized. In past after enquiry, if customer was not coming back, we also use to forget. But now I know his doubts and requirements clearly.	Communication for business	Interaction
The biggest benefit is in the form of consistent communication with customers. I wish them on occasions like Diwali, new year etc. The customers also reply and continuous building of relationship takes place.	Social communication for sustainable relations	
It is very easy to promote on social media. Otherwise also I spend a lot of time in watching videos and reading post. Here I have to click few tabs and job is all set. Why I will miss this opportunity	Easy to use and understand	Organization Compatibility and Competency
I also believe that social media is only an add on for the current marketing system. If I am placing a banner and running a scheme and I am getting a free source to promote why I will not?	No cost involved	
Creating beautiful images and writing a strong content calls for specialized skills. I don't possess that. Neither I have time nor I have software and hardware available to do it properly. People think that social media marketing is easy job. But I differ. Earlier also I tried to no avail. It ended up in very poor content and no one responded to that. I enquired some customers and they replied we have never seen your post.	Match with existing system	

Table 3. Continued

Open codes	Axial codes	Selective codes
The bigger companies only can do all. They have all the resources/infrastructure to deal with social media. I understand new age customers open app first to buy something. But sir Where my message stand if competition is with some professional agency working on this. We are developing ourselves but we stand nowhere	Only for big companies	Organisational Complexity
For me understanding of Social media marketing is very difficult. " Open this tab click that and then………." such things puzzle me. However, I am not very happy with my existing system and want to do something. If environment pressures than definitely I will do something	difficulty in learning and doing	
What is so good in social media? It is unnecessary hype. Now you will talk of metaverse or artificial intelligence. My business in not affected by all this. I know my customers and they know me well. Maybe our future generation will handle all this, but we cannot for now.	change in way of promoting business	
My friend has started social media marketing in 2015. The results took some time but now business is well set and he get orders on social media platforms and receive digital payments.	Advantage over competition	Competitive pressure
Technology saves lot of time. Since I started using technology I could focus on lot many other areas as my time is getting saved. There is no need to attend outlet full time. I have fixed lot of orders which I receive on social media. I fix delivery time. Customers are happy. My competitors who have not adapted social media are also working hard for this after observing my growth	Close Understanding of competition	
Sir, we are in area where we not only face challenges from Amazon, Flipkart but also from big retailers of city. Covid has all together affected the supply chain and customers are more use to of home delivery. Everyone is doing this. Use app or any other social media platform but to survive you should get along with customers requirement	Lessons from competition	
Not being on a social media platform is like not appearing for exams. If you do not appear, you will not score or compete. We have no way out but to have a presence on social media platforms	Copying competition	
If it is not important then why people are on social media platform. Why everyone in retailer community has created pages, accounts etc. on social media	Following Peers	Bandwagon effect
I follow top businessman from this sector. If they are online, there must be some logic. They will not enter in anything without some tangible benefits	Following leaders	
tell me who is not on internet. Who is not using mobile. People entire day in shops are watching one or other thing. How can one say that Marketing on social media is difficult	Not difficult to use	Perceived ease of Ease
Marketing on social media is not navigation only. But one can learn it after putting some efforts . You can learn it online as many videos are also available	Can be learned easily	
I can have my presence felt in short duration of time. It is very useful.	Online presence	Perceived usefulness
There is minimized problem of overstocking or understocking. Customer waiting, stock out, payment mistakes etc. are managed very well. Having transactions online is very beneficial	Beneficial	

Table 3. Continued

Open codes	Axial codes	Selective codes
Considering the advantages and disadvantages I will prefer to use social media instead of not using it. Even if it not results in business there will definitely be no harm	Inclined towards use	Intention to Adopt Social Media
Marketing of any kind is always helpful. We can put in our efforts. Anyways results are outcome of efforts. Putting effort in this direction with no cost as such appeals me.	Appealing	
To understand the entire technology and generating business afterwards is beyond scope of my business. I am happy with my traditional method	Feeling Happy	

significant role in technology adoption (Chatterjee et al., 2021; Erskine et al., 2019). In the recent study (Aithal et al., 2023) observed that convenience caused by technology over physical medium eases the adoption. The retailers were ready to adopt technology for advantages that could be gained despite lack of resources (Isharyani et al., 2024). These factors influence perceived ease of use and perceived usefulness, which are two key factors in the TAM. From a social media perspective, relative advantage and interactivity are two important constructs. Relative advantage can be defined as a firm's perceived gain in using technology that, in turn, motivates them to adopt that technology (Chatterjee et al., 2022). In this case, if the firm perceives that social media will provide a relative advantage, the firm will be more likely to adopt social media. Benefits of using social media for retailers include increased customers, increased employee creativity, increased sales, reduced costs, and stronger relationships. Hence, we propose:

H1.1: Relative advantage significantly influences perceived usefulness.
H1.2: Relative advantage significantly influences perceived ease of use.

Interactivity, on the other hand, refers to the ability of a firm to use social media to interact with customers. This is important because customer interaction enhances the relationship and controls negative feedback (Manning et al., 2022). The positive effect of interactivity on social media adoption has been observed in previous studies (Zolkepli & Kamarulzaman, 2015). social media is considered a tool that allows a firm to interact with a larger audience at a lower cost than traditional media. Retailers may therefore adopt technology that provides a relative advantage and improves customer interaction, particularly through the use of social media. We propose:

H2.1: Interaction significantly influences perceived usefulness.
H2.2: Interaction significantly influences perceived ease of use.

4.1.2 Organizational Constructs

Organizational factors such as size and type of firm, number of employees and their potential, and organization structure determine technology adoption (Hameed et al., 2012). In the current scenario, researchers have considered many parameters regarding technology adoption. Compatibility, complexity, competency, and readiness are broadly discussed (Chatterjee et al., 2021; Gangwar et al., 2015a). Compatibility occurs when an organization can use new technology which meets its requirement and is consistent with its existing systems and values (Pantano & Viassone, 2014). A study by Ainin et al. (2015) shows that newer technologies are adopted quickly if compatible with existing one. So if the retailer can see the fit between resources, existing methods of operating, and new technology, they will adopt the technology (Ainin et al., 2015). However, more than compatibility

is required to explain adoption. A compatible system should be supported by a competent organization that can use it. The organization's competency to use technology depends on its employees (Veliu & Manxhari, 2017). Naturally, the organization is considered competent if the employees are competent in using technology. So even if retailers feel technology is compatible, they should be competent enough to use it (Veliu & Manxhari, 2017). However, if retailers are unable to use technology, they will not perceive the usefulness of that technology (Maduka et al., 2018). These three factors influence the perception of businesses for adopting social media, and the following hypotheses are therefore proposed.

H3.1: Organizational competency and compatibility significantly influence perceived usefulness.
H3.2: Organizational competency and compatibility significantly influence perceived ease of use.

The next factor influencing the adoption of social media is the complexity of the organization. It is defined by Gangwar et al. (2015a) in terms of convenience and understanding of the proposed system. Lower comfort and poor understanding complicate a system (Idris, 2015). The complexity has a close relation to ease of use. Among other factors, retailers' knowledge of technology such as social media, their decision-making effectiveness, the time required to perform some functions, and their understanding of the interface can affect their ease of use (Parveen & Sulaiman, 2008). We propose the following:

H4.1: Organizational complexity significantly influences perceived usefulness.
H4.2: Organizational complexity significantly influence perceived ease of use.

4.1.3 Environmental Constructs

Several parameters define the environmental construct. Government, socio-political factors, competition, and partners across the value chain are constituents of the environment (Kabanda & Brown, 2017). These factors are instrumental in pressuring firms to adopt innovations (Maduku et al., 2016). For small retailers, factors such as competitive pressure, competitive intensity, the bandwagon effect, and customer pressure play a vital role (Tajudeen et al., 2018). The industry's competitive pressure drive firms to adopt new technologies to gain an edge over the competition (Khan et al., 2019). A large number of small players in the retail landscape sharpens the competition. The competition intensity is high when opportunities are limited and the number of competitors is greater, which calls for innovation in doing business and enthusiasm to adopt new practices. Given more competitors, more technological innovations are expected to be adopted to gain a competitive advantage (Maroufkhani et al., 2020). The hypothesis proposed are:

H5.1: Competitive pressure significantly influences perceived usefulness.
H5.2: Competitive pressure significantly influences perceived ease of use.

Technological changes, globalization, and accelerated technology diffusion have also resulted in technology adoption (Chakraborty et al., 2022; Qalati et al., 2021). Moreover, these environmental factors produce a contagion effect. Popularly known as the bandwagon effect, this phenomenon psychologically motivates firms to follow their peers (Datta et al., 2019). The fear of missing out and, as a result, underperforming, often encourages firms to seek new technologies (Lee & Chan, 2003). Many retailers accept social media after observing the competition (Bollweg et al., 2020). The following hypotheses are formulated in light of the literature above:

H6.1: Bandwagon effect significantly influences perceived usefulness.

H6.2: Bandwagon effect significantly influences perceived ease of use.

4.1.4 Perceived Ease of Use, Perceived Usefulness, and Intention to Adopt Technology

Technology adoption depends on two factors: perceived ease of use and perceived usefulness. perceived ease of use is the belief of users that the new system can be learned quickly (Davis, 1989). perceived ease of use also covers the belief of users that they can work with technology (self-efficacy), enjoy using it, feel in control of it, and be free of anxiety while using it (Venkatesh & Bala, 2008). In the recent study (Kumar et al., 2023) interplay of perceived ease of use and perceived usefulness was observed. Customer satisfaction resulted after e-grocery app use owing to its design which was easy to use (Chakraborty et al., 2022). This motivates them to continue using app. The studies on information appliances (Se-Joon & Kar Yan, 2006) and the adoption of e-commerce (Tajudeen et al., 2018) highlighted that perceived ease of use results in technology adoption. social media penetration is an obvious fact (The Global Statistics, 2022) and indicates that ease of use prevails. However, during a personal interview, some of the retailers expressed difficulties using social media for marketing purposes.

According to the TAM model, perceived ease of use predicts perceived usefulness. The perceived usefulness can be defined as the retailer's interpretation that by using the new system they can perform better (Younghwa et al., 2003). According to Chatterjee et al. (2021) a linear relationship exists between usefulness and intention to adopt. Another study explains that perceived usefulness is a broader concept involving subjective norms, image, job relevance, output quality, and demonstrable results (Venkatesh & Bala, 2008). Further research found that users cognitively compare the system's capability with job requirements (Venkatesh & Davis, 2000). If perceived usefulness is marked, it will result in the intention to adopt. Retailers are finding the use of social platforms to be accessible and valuable (Salam et al., 2021). Considering the above literature, the following hypotheses were formulated:

H7: perceived ease of use significantly influences perceived usefulness.
H8: Perceived usefulness significantly influences Intention to adopt technology.
H9: Perceived ease of use significantly influences Intention to adopt technology.

4.1.5 Mediation Effect of Perceived Usefulness Between Perceived Ease of Use and Intention to Adopt Technology

Intention to adopt technology refers to an individual's willingness to use a particular technology in the future. perceived ease of use indicates effortless and ease factors in learning technology, whereas perceived usefulness indicates the individual belief that technology will improve performance and make life easier. In the context of social media adoption, perceived usefulness can act as a mediator between perceived ease of use and Intention to adopt technology. If an individual finds social media platforms easy to use, they are more likely to perceive the platforms as useful for socializing, networking, or promoting their business (Busalim et al., 2021). This belief in the usefulness of social media platforms can increase their Intention to adopt technology and use them. Therefore, when individuals perceive technology as easy to use, they are more likely to view it as useful, which in turn can increase their intention to adopt it. Thus we propose:

H10: perceived usefulness mediates the relationship between perceived ease of use and Intention to adopt technology.

4.1.6 Retail Outlet Age and Retailer Age as Moderators

Several scholarly works highlight the impact of age on technology adoption (Eze et al., 2021; Lamberton & Stephen, 2016). It has been observed that younger people are more open to accepting technology than older ones (Eze et al., 2021; Melumad et al., 2019). It has also been stressed that age impacts perceived usefulness and that people at a younger age are open to taking risks with new technology (Li et al., 2017). Similar observations are found in other research (Awa et al., 2015; Ransbotham et al., 2019; Sabherwal et al., 2006). In many family-owned retail setups, the newer generation is more eager to accept technology to impress experienced family members with their knowledge (Sabherwal et al., 2006). Considering the relevant literature, the following hypotheses were formulated:

H11.1: Retailer age moderates the relationship between perceived ease of use and perceived usefulness.
H11.2: Retailer age moderates the relationship between perceived usefulness and intention to adopt technology.
H11.3: Retailer age moderates the relationship between perceived ease of use and intention to adopt technology.

Experience affects a firm's cost, productivity, and confidence, and is therefore considered an asset for the organization (Ho & Lim, 2018). In the case of technology, if the experience is lacking adoption, process slows down (Huang & Rust, 2018). However, positive experience with technology promotes quicker adoption (Ho & Lim, 2018; Kubler et al., 2018). Considering relevant literature, the following hypotheses were formulated:

H12.1: Retail outlet age moderates the relationship between perceived ease of use and perceived usefulness.
H12.2: Retail outlet age moderates the relationship between perceived ease of use and intention to adopt technology.
H12.3: Retail outlet age moderates the relationship between perceived usefulness and intention to adopt technology.

Hence, Fig. 1 presents the conceptual model below.

5. DATA, METHODS, AND ANALYSIS

This section covers the measurement scales used for the study and is followed by a preliminary analysis conducted on the data sets, assessing the reliability and validity of the constructs. Further CFA was conducted to assess the unidimensionality of the constructs. SEM was used for hypothesis testing and moderation effects on dependence relationships.

5.1 Measures

Data was collected using a questionnaire developed following the procedures defined by Churchill (1979). First, we extracted the statements to measure the dimensions of Barriers and Drivers in the adoption of social media by small grocery retailers based on content analysis of the qualitative study. These dimensions were compared for congruence with the existing pre-validated scales. We reviewed the current literature and selected the items for the constructs to avoid any overlapping with the items and constructs. The constructs adapted from the literature are tabulated in Table 4.

Before proceeding to the data collection, the researchers conducted the face and content validity. For this purpose, we approached the experts in the field of retail. This exercise guided us to ensure statements were relevant and fit to be measured. 30 management graduates were recruited to read

Table 4. Explanations of constructs

Construct Name	Explanations	References
Relative Advantage	The extent to which a new product surpasses an existing one; a key factor in determining how quickly a new product will be adopted.	(Erskine et al., 2019)
Interaction	The way that people use technology with the goal of better understanding and enhancing the compatibility between technology and its consumers.	(Manning et al., 2022)
Organizational Complexity	The degree to which various organisational entities differ from one another is referred to as organisational complexity. It refers of the quantity of resources assigned to a team, project, or division. A complicated organisation is one that has a large organisational structure or system.	(Erskine et al., 2019)
Competitive pressure	A corporation is under "competitive pressure" when it frequently experiences pressure from its competitors.	(Manning et al., 2022)
Bandwagon effect	The bandwagon effect is the propensity for people to imitate other people's actions by adopting specific attitudes, styles, or habits.	(Chatterjee et al., 2021)
Perceived ease of use	The degree to which people think that they won't have to put much effort into using a certain system.	(Chatterjee et al., 2021)
Perceived usefulness	the extent to which a person thinks employing a certain method would improve his or her performance at work.	(Erskine et al., 2019)
Intention to Adopt Technology	Small grocery retailers intention to adopt social media.	(Chatterjee et al., 2021)

and submit feedback to ensure proper and understandable wording. In this process, the verbatim wording of a few questions was modified. The final questionnaire was prepared by modifying the initial instrument based on the feedback from experts and students. All items were measured using a 5-point Likert scale ranging from '5' (Strongly Agree) and '1' (Strongly Disagree).

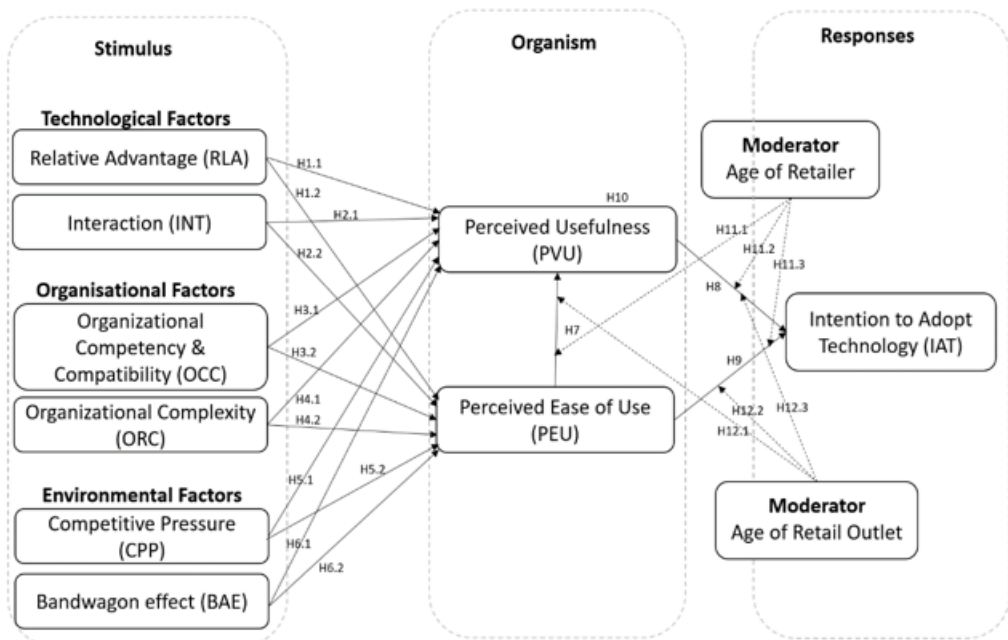**Figure 1. Proposed conceptual model**

Table 5. Demographic profile of respondents

Demographic Measures	Category	Count	Percent
Age of Retailer	Less than 25 years	107	12.24
	25 - 35 years	130	14.87
	35 - 45 years	225	25.74
	45-55 years	196	22.43
	55 years & above	216	24.71
Age of Retail Outlet	Started below one year	97	11.10
	One year to five years	126	14.42
	Six years to ten years	178	20.37
	Eleven years to fifteen years	279	31.92
	Sixteen years and more	194	22.20
Gender	Male	498	56.98
	Female	376	43.02
Educational Qualification	Completed high school	66	7.55
	pursuing/ completed professional degree/ vocational school	148	16.93
	pursuing/completed bachelor's degree	246	28.15
	pursuing/completed master's degree	252	28.83
	pursuing/completed doctorate (PhD or equivalent)	162	18.54
Monthly income	Less than $600	77	8.81
	$600-900	145	16.59
	$900-1200	263	30.09
	$1200- 1500	267	30.55
	More than $1500	122	13.96

5.2 Data Collection

A structured questionnaire was used for collecting data. Data was collected from individuals throughout India who were running small grocery retail outlets from November 2022 to February 2023. At first, a list-based sampling frame was used to list down all the email ids from different sources, LinkedIn connections, FB pages and WhatsApp numbers. The researchers then randomly picked up the email ids, LinkedIn ids, and WhatsApp numbers and started floating the questionnaires through Google Forms. To find suitable respondents, the researchers introduced two screening questions: "What is your age?" and "What is the age of the retail outlet?" Though the screening questions have been asked based on some purpose so the purposive sampling technique has been employed in this study. The researchers sent the questionnaire (using google form) to more than 2,700 potential respondents through various social media platforms, such as WhatsApp, LinkedIn, and email, and received 900 replies. 874 submissions were confirmed as genuine, after excluding the erroneous responses. As the data were collected online, answering every question was mandatory. At the same time, the size of respondents was huge, which also provided more representativeness to the sample. As the sample size was large, the variability in the data was automatically high, and biases toward the sample were also minimized. Table 5 shows that the age of retailer is highest in the age group of 35-45 years, 31.92% age of retail outlet is within 11-15 years, almost 57% are male, almost 29% completed master's degree and 30.55% of them are earning in between 1200-1500 USD.

In the study, retailer age and age of the retail outlet has been used as moderators, rather than controls, in the relationships between perceived usefulness, perceived ease of use, and technology adoption intentions. It is important to work as moderators as they can impact the strength or direction of these relationships. Exploring moderators helps to determine the specific conditions or individuals for whom certain relationships are valid, enabling a more thorough investigation of the underlying mechanisms. Considering retailer age and age of the retail outlet as potential moderators, they could interact with perceptions of usefulness and ease of use to influence technology adoption intentions. This offers insights into how these associations might differ across various age groups or retail settings. Thus, through analyzing these variables as moderators, scholars seek to reveal detailed understandings of the dynamics of technology adoption in the retail setting, instead of just accounting for their impacts. At the same time we have used the other demographic variables like gender, qualification and income as a control variable.

5.3 Data Analysis

The statistical analysis was performed using SPSS v28.0 software. Initially, the data were checked for normality using skewness and kurtosis values, and tests for multicollinearity and common method bias were conducted. The results indicated that the data was appropriate for further investigation. CFA was employed to evaluate the instrument's reliability and validity, and the measurement model's fit was assessed. Subsequently, SEM was used to test the hypothesized assumptions. AMOS v28.0 and PROCESS Macro 4.0 were employed for further statistical analysis. Data analysis mainly included conducting the preliminary analysis followed by testing the measurement and structural models. Testing the moderation effect of the severity of the model was also part of the data analysis. Table 6 has described constructs, items, factor loadings and sources.

5.3.1 Preliminary Analysis

First, the data set was examined with normality issues using kurtosis and skewness, which are in the threshold limits of ± 2. Multicollinearity was addressed using variance inflation factor (VIF) and tolerance value. The values of VIF were below 10, which indicated no multicollinearity issues in the data sets. The data set was then fit to test the measurement model and structural model.

5.3.2 Common Method Bias

The data of dependent and independent constructs were collated from the same respondent, and it is likely that common method bias could lead to bias in interpreting results. Harman's single factor and marker variable methods were predominantly used to test CMB (Malhotra et al., 2006). Harman's single factor model described that a single factor is describing less than 50% of total variance (Shankar et al., 2021). An additional marker variable was included in the questionnaire by the authors. The correlation between this marker variable and the study constructs was found to be below 0.5, thus confirming the presence of common method bias. Our analysis found a very low correlation between the marker variable and the study variable (below 0.5) (Shankar et al., 2021; Baumgartner et al., 2021). Therefore, common method bias is unlikely to be a concern in the data. At last, the study utilized a moderation and mediation model to minimize common method bias, as participants struggled to connect cause and effect associations between constructs (Shankar et al., 2021). When utilizing complex models, such as moderation and mediation models, which involve direct effects, mediation effects, and moderation effects, it becomes challenging for respondents to predict cause and effect associations, potentially reducing the chances for common method bias.

5.3.3 Measurement Model

CFA was conducted to examine and ensure the reliability and validity of the selected constructs of the study (Dash & Paul., 2021). First, the study examined Cronbach's alpha values to confirm the item's internal consistency. The Cronbach's alpha values were above the threshold values (Hair et

al., 2016), ensuring the data's internal consistency. Further, average variance extracted (AVE) and composite reliability values were greater than their threshold values of 0.5 and 0.7 respectively (Hair et al., 2016), establishing the convergent validity of the scale. The approach of Fornell & Larcker was followed to test the discriminant validity of the constructs (1981). According to their criteria, the square roots of the average variance explained that values should be greater than the correlation coefficients of constructs with the other constructs. This indicates discriminant validity among the constructs used in the study. The results of the measurement model indicate a good model fit, and its indices such as CMIN/Df=3.051 (p<0.000), CFI=0.969, GFI=0.923, AGFI=0.902, NFI=0.954, TLI=0.963, and RMSEA=0.048 confirm the unidimensionality of the measurement model (Table 7).

5.3.4 Hypotheses Testing

The hypothesis was tested in two stages: direct and moderation effects. Like the measurement model, the structural model was also assessed to ensure a good fit of the model (CMIN/Df = 3.613 (p<0.000), CFI = 0.959, GFI = 0.909, AGFI = 0.886, NFI = 0.945, TLI = 0.952, RMSEA = 0.055). The structural model explained 43% of the variance in perceived usefulness, 53% of perceived ease of use, and 50% of the intention to adopt the technology. The phenomenon was explained adequately by hypothesized relationships since explained variance was more than the threshold value of 10% (Falk and Miller, 1992). The β values (estimates) for H1.1, H1.2, H2.1, H3.1, H3.2, H4.1, H4.2, H5.1, H5.2, H6.1, H6.2, H7, H8, and H9 are 0.191, 0.198, 0.088, 0.249, 0.198, 0.272, 0.048, 0.047, 0.078, 0.186, 0.165, -0.053, 0.092, 0.353, and 0.463 respectively. The p-values can be seen in Table 6 and Fig 2. This implies that all stimuli and technology, in addition to organizational and environmental factors, significantly impact organisms' perceived usefulness and perceived ease of use. Moreover, perceived usefulness and perceived ease of use positively relate to the intention to adopt the technology. Hence hypotheses H1.1-H9—with the exceptions of H4.1, H4.2, and H6.2—were all supported (Table 8; Fig. 2).

5.3.5 Mediation Analysis

Mediation effect of construct perceived usefulness between constructs perceived ease of use and IAT was examined using Model 4 of SPSS PROCESS. The mediation effect recorded at 0.463 was non-significant (Table 9). Hence, H10 was determined to be non-significant.

5.3.6 Moderation Analysis

Finally, we tested the moderation effect to examine whether the retailer age and retail outlet age moderate the relationships between perceived ease of use and perceived usefulness, perceived usefulness and intention to adopt technology, and perceived ease of use and intention to adopt technology. The findings presented in Table 10 and Table 11 indicate that retailer age could only moderate the relationship between perceived usefulness and intention to adopt technology at p<0.005, and that retail outlet age could only moderate the relationship between perceived ease of use and perceived usefulness at p<0.05. Hence hypotheses H11.2 and H12.1 are supported. Fig. 3 and Fig. 4 depicted the moderation effect pictorially. Intention to adopt technology and perceived usefulness were found to be higher among individuals of advanced age and in retail establishments with a longer operational history, respectively. Remarkably, the correlation between perceived usefulness and intention to adopt technology showed a more pronounced slope among younger age groups compared to individuals of higher age, as depicted in Figure 3. Conversely, in Figure 4, a sharper incline was observed for individuals of advanced age in contrast to younger age groups in the relationship between perceived usefulness and perceived ease of use.

5.3.7 Control Variables

In Table 12, the demographic variables, namely educational qualification, income, and gender, have been used as a control variable, and their effect on the three dependent variables (perceived

Table 6. Measurement of study variables

Construct Code	Constructs	Items	Sources	Item Code	CFA	SEM
RLA	Relative Advantage	Social media provides new opportunities	(Erskine et al., 2019)	RLA1	0.942	0.942
		Social media allows for better advertising and marketing		RLA2	.917	0.918
		We adopt social media to cut down cost on marketing communications		RLA3	0.893	0.892
		Social media platform saves costs relating to time and effort in marketing, branding and customer service		RLA4	0.817	0.816
INT	Interaction	Social media offers interactive communication with customers	(Manning et al., 2022)	INT1	0.943	0.944
		Social media offers interactive mechanisms for value co-creation with our audience		INT2	0.916	0.916
		Social media enable to engage customers via mentions and replies with controlled message contents		INT3	0.839	0.839
OCC	Organizational Competency & Compatibility	We can hire specialized or knowledgeable personnel for social media marketing	(Erskine et al., 2019)	OCC1	0.922	0.921
		We have sufficient technological resources to implement social media marketing plan		OCC2	0.866	0.866
		Social media marketing is compatible with our existing system		OCC3	0.892	0.893
ORC	Organizational Complexity	Using Social media Marketing is easier for large corporations	(Manning et al., 2022)	ORC1	0.918	0.919
		Integrating existing system with social media marketing is difficult		ORC2	0.941	0.94
		Resistance to migrate from existing system to social media marketing is high		ORC3	0.908	0.908

Table 6. Continued

Construct Code	Constructs	Items	Sources	Item Code	CFA	SEM
CPP	Competitive pressure	We are aware of Social media adoption benefits in competitor organizations	(Chatterjee et al., 2021)	CPP1	0.886	0.887
		We understand the competitive advantages offered by social Media		CPP2	0.878	0.878
		There is rivalry among the firms in the industry, our firm is operating in intense		CPP3	0.78	0.78
		It is easy for our customers to switch to another company for similar services/products without much difficulty"		CPP4	0.792	0.791
BAE	Bandwagon effect	Social media is a popular application; therefore our firm would like to use it as well	(Chatterjee et al., 2021)	BAE1	0.82	0.819
		We follow others in adopting social media		BAE2	0.896	0.895
		We choose to adopt social media because many other firms are already using it		BAE3	0.899	0.9
PEU	Perceived ease of use	The procedure of using Social media tools for marketing is understandable	(Erskine et al., 2019)	PEU1	0.887	0.882
		It is easy for us to learn using social media tools for marketing		PEU2	0.848	0.847
		It is easy to make use of social media marketing tools		PEU3	0.83	0.827
PVU	Perceived usefulness	Using social media marketing tools allow me to manage business operation in an efficient way	(Chatterjee et al., 2021)	PVU1	0.925	0.911
		Using social media marketing tools allow me to increase business productivity		PVU2	0.731	0.73
		Using social media marketing tools enables allow me to accomplish my organizational task more quickly		PVU3	0.777	0.787
IAT	Intention to Adopt Technology	Overall I think that using social media marketing tools is advantageous	(Chatterjee et al., 2021)	IAT1	0.873	0.873
		Overall, I am in favour of using the social media marketing tools		IAT2	0.909	0.912
		I would like to use Social media to its full potential		IAT3	0.878	0.873

Table 7. Construct reliability and validity

	CR	AVE	MSV	MaxR (H)	PVU	RLA	ITN	ORC	BAE	CPP	PEU	IAT	OCC
PVU	0.855	0.665	0.305	0.896	**0.815**								
RLA	0.940	0.798	0.441	0.950	0.539	**0.893**							
ITN	0.928	0.811	0.397	0.940	0.509	0.630	**0.900**						
ORC	0.945	0.851	0.259	0.947	0.376	0.509	0.461	**0.922**					
BAE	0.905	0.761	0.279	0.912	0.454	0.496	0.521	0.478	**0.872**				
CPP	0.902	0.698	0.236	0.911	0.368	0.410	0.409	0.213	0.214	**0.835**			
PEU	0.891	0.732	0.370	0.894	0.502	0.568	0.591	0.361	0.341	0.486	**0.855**		
IAT	0.917	0.786	0.441	0.919	0.552	0.664	0.612	0.501	0.528	0.466	0.608	**0.887**	
OCC	0.922	0.799	0.383	0.926	0.536	0.592	0.603	0.384	0.458	0.477	0.605	0.619	**0.894**

Figure 2. Results of hypotheses testing
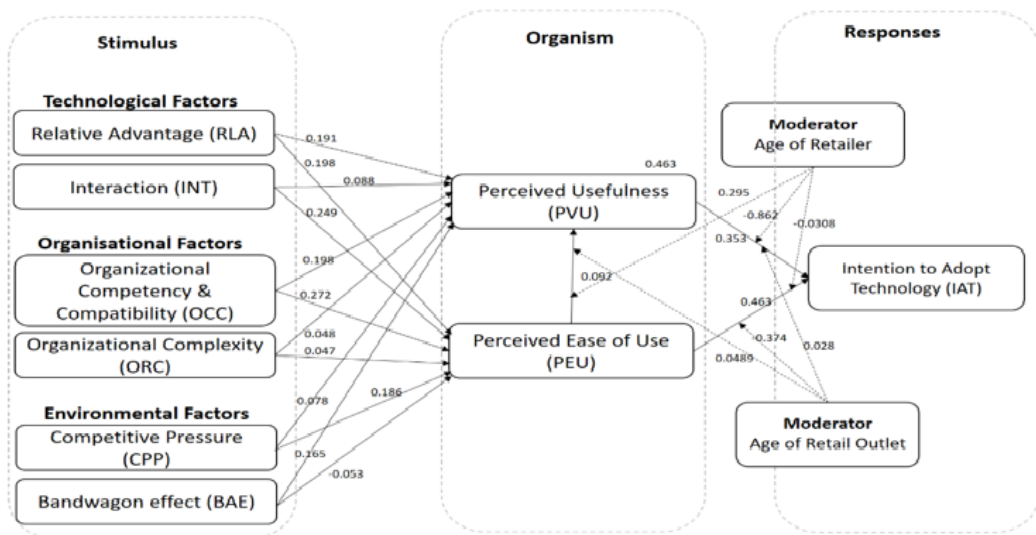
ease of use, perceived usefulness, and intention to adopt technology) have been observed. It has been found that educational qualifications do not have any confounding effect on perceived ease of use, but qualification has a confounding effect on perceived usefulness and intention to adopt technology. At the same time, income has a confounding effect on perceived ease of use and perceived usefulness but no effect on intention to adopt technology. Accordingly, gender doesn't have any effect on perceived ease of use and intention to adopt technology but has a confounding effect on perceived usefulness.

6. DISCUSSION

We utilized the SOR (Stimulus-Organism-Response) framework to examine the interrelationships among constructs related to the three phases of the model. Through our proposed model, we investigated eleven different associations and conducted a comprehensive analysis of small grocery retailers' adoption of social media. Our study delved into the associations between two organisms - perceived usefulness and perceived ease of use - and three stimuli - technological, organizational, and

Table 8. Hypotheses testing results

Hypothesis	Path			Estimate	S.E.	C.R.	p
H1.1	**PVU**	←	**RLA**	**0.191**	**0.040**	**4.186**	*******
H1.2	PEU	←	RLA	0.198	0.038	4.769	***
H2.1	PVU	←	ITN	0.088	0.044	1.904	0.057
H2.2	PEU	←	ITN	0.249	0.041	5.929	***
H3.1	PVU	←	OCC	0.198	0.037	4.319	***
H3.2	PEU	←	OCC	0.272	0.034	6.643	***
H4.1	PVU	←	ORC	0.048	0.029	1.314	0.189
H4.2	PEU	←	ORC	0.047	0.028	1.394	0.163
H5.1	PVU	←	CPP	0.078	0.038	2.117	0.034
H5.2	PEU	←	CPP	0.186	0.036	5.521	***
H6.1	PVU	←	BAE	0.165	0.032	4.191	***
H6.2	PEU	←	BAE	-0.053	0.031	-1.468	0.142
H7	PVU	←	PEU	0.092	0.045	1.962	0.05
H8	IAT	←	PVU	0.353	0.043	9.836	***
H9	IAT	←	PEU	0.463	0.043	12.725	***

Table 9. Mediation effects

Hypothesis	Path	Direct effect	p	Indirect effect	p	Mediation	Accepted | Rejected?
H10	PEU→PVU→IAT	0.463	0.000	-0.002	0.123	No	Rejected

Table 10. Moderation effects of retailer age

Hypothesis	Path	Coefficient	SE	t	p	LLCI	ULCI	Accepted?
H11.1	PEU→PVU	0.0295	0.0229	1.2908	0.1971	-0.0154	0.0744	No
H11.2	PVU→IAT	-0.0862	0.0249	-3.4563	0.0006	-0.1351	-0.0372	Yes
H11.3	PEU→IAT	-0.0308	0.0232	-1.3271	0.1848	-0.0763	0.0147	No

[Note: IAT: Intention to adopt technology, PEU: Perceived ease of use, PVU: Perceived usefulness]

environmental factors. We also expanded our inquiry to include the relationship between organism and response, precisely the intention to adopt the technology. Finally, we explored the moderating

Table 11. Moderation effects of retail outlet age

Hypothesis	Path	Coefficient	SE	t	p	LLCI	ULCI	Accepted?
H12.1	PEU→PVU	0.0489	0.0229	2.1350	0.0330	0.0039	0.0938	Yes
H12.2	PEU→IAT	0.0028	0.0233	0.1215	0.9033	-0.0430	0.0487	No
H12.3	PVU→IAT	-0.0374	0.0253	-1.4476	0.1399	-0.0871	0.0123	No

[Note: IAT: Intention to adopt technology, PEU: Perceived ease of use, PVU: Perceived usefulness]

Figure 3. Graphical representation of the moderator age of retailer [Note: IAT: intention to adopt technology, PEU: perceived ease of use, PVU: perceived usefulness]
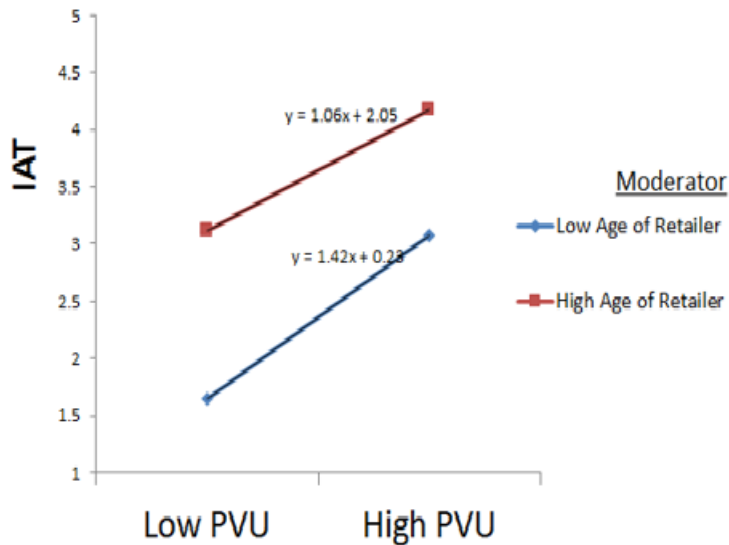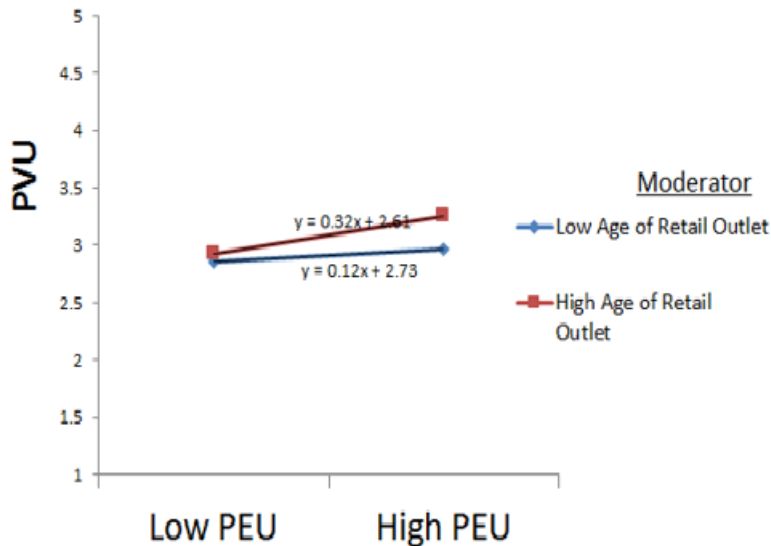

Figure 4. Graphical representation of the moderator age of retail outlet [Note: IAT: intention to adopt technology, PEU: perceived ease of use, PVU: perceived usefulness]

effects of retailer and outlet age on the relationship between organism and response. Our findings support our hypotheses and are consistent with relevant theoretical frameworks.

Evidence suggests that relative advantage positively related to perceived usefulness and perceived ease of use (H1.1 & H1.2). Other studies have made findings similar to ours (Alyoussef, 2022; Golbabaei et al., 2021). The relative advantage in the context of innovation measures the level of benefit derived from the adoption of an invention in comparison to the previous systems (Rouibah et

Table 12. Results of control variables

Path			Estimate	S.E.	C.R.	P	Result
PEU	**←**	**Eduqual**	**0.047**	**0.033**	**1.437**	**0.151**	**Rejected**
PEU	←	Housinc	0.092	0.032	2.869	0.004	Accepted
PEU	←	Gender	-0.075	0.054	-1.411	0.158	Rejected
PVU	←	Gender	0.030	0.046	0.651	0.515	Accepted
PVU	←	Housinc	0.294	0.028	10.589	***	Accepted
PVU	←	Eduqual	0.269	0.028	9.513	***	Accepted
IAT	←	Eduqual	0.180	0.040	4.503	***	Accepted
IAT	←	Housinc	0.026	0.040	0.638	0.524	Rejected
IAT	←	Gender	-0.045	0.063	-0.714	0.475	Rejected

al., 2022). The more significant is relative advantage perceived by small grocery retailers, the greater will be its perceived usefulness and perceived ease of use regarding the adoption of social media. The explanation for this significant relationship is that these technologies have obvious advantages over traditional ones. Also, realizing such benefits as increased customer engagement and sales will make them view it as a valuable tool for their business operations. Furthermore, small grocery stores can better understand the advantages and benefits they may bring to their firms through technology that may improve their ease of use perception. Gradually, small grocery retailers acknowledge the need to use social media platforms to increase efficiency and establish competitive advantage within their business strategies.

In line with this, our study's evidence of a positive relationship between Interaction with Perceived usefulness and perceived ease of use (H 2.1 & H 2.2) is likewise consistent with findings from earlier studies (Chatterjee & Kar, 2020; Qalati et al., 2021). Social media technologies enabling small retailers to communicate with their clients through mentions and replies with tailored message contents are very beneficial for their business. Regarding perceived usefulness and ease of use, social media that provide simple interactive mechanisms for value co-creation with consumers are also worth discussing. Thus, the technological factors significantly impacted both perceived usefulness and perceived ease of use. Regarding social media adoption among small grocery retailers, the interaction does not significantly impact the perception of usefulness. This is because interactive features alone do not directly improve sales or business outcomes for sellers. However, this interaction significantly affects ease of use in terms of how easily users can understand the interface and enjoy browsing or managing different sites on various social media platforms. When interactions are seamless and user-friendly, retailers tend to find technology easy to deal with, even if they cannot see why it would be helpful. Next, we explored the relationship between organizational factors with perceived usefulness and perceived ease of use.

Hypotheses H3.1 and H3.2 hypothesized that organizational competency and compatibility significantly impact perceived usefulness and perceived ease of use, which was supported by earlier studies in this regard (Silva-C et al., 2019; Singh & Sinha, 2020). This indicates that if the staff at the small grocery store, or the owner, have the abilities, expertise, and other qualities needed to execute well for the organization, they will better perceive social media's usefulness (Kamdjoug et al., 2023). When an organization is competent, its personnel can better concentrate on information vital to their jobs and operate at a higher level of efficiency. Organizational expertise and compatibility play a decisive role in determining whether these technologies are valuable and how easily they are perceived when used. Organizations with the necessary skills can use social media tools effectively to streamline business operations and accomplish strategic objectives, meaning they perceive them as applicable. It saves time when one chooses compatibly while introducing social networks within

existing systems since there will be not much reorganization required, thus making the introduction process easier. Their needs should fit with existing organizational competencies, thus making them more likely to think it has some value and then adopt it.

In line with our following hypothesis, the significant relationship between organizational complexity with perceived usefulness and perceived ease of use (H4.1 & H4.2) was also found to be true and is supported by previous studies (Chatterjee et al., 2021; Gangwar et al., 2015b). We have found a positive relationship between organizational complexity with perceived usefulness and perceived ease of use. These organizations generally have simple operations and structures, thus minimizing the impact of complexity on technology utilization. Small firms typically do not experience many bureaucratic hurdles; this allows them to see social media platforms' worthiness and ease of use. Consequently, the simplicity of the functions performed by small grocery stores implies that their perception of social media platforms does not depend so much on organizational complexities. Online platforms have posed severe challenges to small retailers. The absence of critical infrastructure and poor understanding of the electronic market has taken away their market share. Their consumers are switching to online platforms for convenience and offers. This weakness has become their strength. An organization lacking resources converts it into strength (Miller & Le Breton-Miller, 2020). They devise ways to counter, especially when they are aware that a head-on collision with a leader is difficult (Hamel & Prahalad, 1995). Small retailers are adopting social media despite all their limitations.

Next, we explored the relationship between environmental factors, i.e., competitive pressure and bandwagon effect, and perceived usefulness and perceived ease of use. The positive relationship of competitive pressure with perceived usefulness and perceived ease of use (H5.1 & H5.2) was acceptable. Other studies also found similar results (Kamble et al., 2018; Wu & Lin, 2017). Social media platforms are critical for boosting competitiveness and gaining company value since they instantly provide real-time information with greater reach. Small shops recognize the importance of using social media during intense market competition. This, therefore, means that there is a motivation to utilize technologies that will improve their market positions when under such pressures from competitors who are using them well. When their competitors succeed with social media, little companies feel compelled to follow suit to retain and attract clients. Therefore, they consider it as an effective tool for achieving their business objectives. Besides, exploring other businesses' accomplishments via these channels makes them less uncertain about their applicability and more user-friendly, increasing their perceived ease of use towards such applications.

On the other hand, the bandwagon effect (H6.1 & H6.2) is a psychological phenomenon in which people act primarily following what other people are doing, disregarding or superseding their convictions. Herd mentality is another term for people's propensity to conform their thoughts and actions to those of the crowd. According to the study, small business owners are, therefore, influenced by others in the social media era, which eventually affects how valuable they think social media is to them. Seeing their peers in the industry make good use of social media strengthens the belief that these platforms benefit businesses. When businesses adopt social media, retailers regard it as a valuable means of keeping up with competition and staying relevant, increasing its perceived usefulness. Nevertheless, the bandwagon effect may not largely influence perceived ease of use. Retailers might think that if everyone uses social media, it must be easy to handle. However, this assumption does not automatically mean that they are right in evaluating the user-friendliness of such platforms.

Furthermore, we found that the influence of perceived ease of use on perceived usefulness and intention to adopt technology (H7 & H9), as well as the influence of perceived usefulness on intention to adopt technology (H8), aligns with the TAM. It is important to note that this directly influences their perceptions of usefulness and intention to engage in the technology adoption process. If merchants view social media platforms as simple and manageable, they are more likely to believe it enhances business outcomes, making them more valuable in terms of utility. Furthermore, a platform's ease of use and user-friendly nature can boost retailers' confidence in adopting technological innovations because they expect a smooth application procedure. When a technology is user-friendly, individuals

are more likely to think it will improve their effectiveness, output, or overall satisfaction, leading to a higher perception of its value. Moreover, the perceived usefulness of a technology directly impacts individuals' intention to adopt it, as they are more inclined to embrace a technology they see as beneficial for achieving their goals or meeting their needs. This underscores the importance of perceived utility and usability in influencing individuals' decisions to adopt social media technology, as demonstrated by the connection between perceived ease of use and perceived usefulness, as well as between perceived usefulness and intention to adopt technology.

There is a relationship between perceived ease of use and intention to adopt (social media) technology, which is mediated by perceived usefulness (H10). When people view technology as user-friendly, they tend to see it as beneficial for reaching their goals or meeting their needs. Perceiving the usefulness of the technology enhances their intention to adopt it. In essence, ease of use plays a crucial role in shaping how individuals perceive usefulness, which impacts their intentions to adopt. Hence, perceived usefulness plays a vital mediating role in converting perceptions of ease of use into intentions to adopt social media technology.

We further explored the moderation effect of the retailer and retail outlet ages. Our results suggest that retailer age moderates the relationship between perceived usefulness (H11.2) and technology adoption intentions but not on the relationships between perceived ease of use and perceived usefulness or between perceived ease of use and technology adoption intentions (H11.1 & H11.3). It is possible that retailer age, or the length of time a given retailer has been in business, may influence their perception of the usefulness of social media. Established retailers with a more extended history may have traditional marketing approaches in place and are increasingly recognizing the benefits of integrating social media (social media) into their business strategies. Experienced retailers may lean towards perceived usefulness when adopting technology, focusing on practical benefits and tangible outcomes. Nevertheless, the connections between perceived ease of use and perceived usefulness and perceived ease of use and technology adoption intentions might not be influenced by retailer age. This is because ease of use is typically a factor that applies universally regardless of age, and its influence on perceived usefulness and adoption intentions is steady across various age demographics. Thus, although age-related factors may influence perceived usefulness, the connections related to perceived ease of use are generally more widely relevant.

Meanwhile, the age of the retail outlet moderates the relationship between perceived ease of use and perceived usefulness (H12.1). However, it does not moderate the relationship between perceived ease of use and technology adoption intentions or between perceived usefulness and technology adoption intentions (H12.2 & H12.3). Considering the age of the retail outlet could impact the connection between perceived ease of use and perceived usefulness. Older retail outlets may have existing systems and cultures that affect how employees view new technologies in ease of use. For example, workers in traditional establishments might appreciate technologies that smoothly blend with current systems and procedures, improving perceived usefulness. Nevertheless, the absence of a moderating effect on the connections between perceived ease of use and technology adoption intentions or between perceived usefulness and technology adoption intentions may be due to broader organizational factors such as management support, resource availability, and strategic alignment. These factors could substantially impact the general technology adoption decisions in the retail outlet, surpassing the moderating influence of outlet age on these connections. Hence, the age of the outlet might influence perceptions of usefulness regarding ease of use, but other organizational factors could influence its effect on actual technology adoption intentions. The age of the retail outlet, or the length of time it has been in operation, may also affect the ease of integrating new technology into their business.

Due to their longevity in the industry, established retailers possess a deeper understanding of the impact of social media on businesses. They are adept at comparing reach and measuring impact, making them more inclined to adopt social media for their operations. Conversely, younger retailers will likely embrace social media swiftly once they grasp its significance.

Our research identifies several key drivers influencing the adoption of social media among retailers, including relative advantages, organizational competency and compatibility, organizational complexity, competitive pressures, and the bandwagon effect. Small retailers find social media platforms useful and user-friendly, sparking their interest in adoption.

The pervasive influence of social media is undeniable, especially with the increasing trend of online consumer transactions. It is increasingly beneficial for small businesses to establish an online presence. However, small retailers must exercise caution as governments worldwide enact legislative frameworks to protect consumers. Small merchants must stay informed about national regulations. For instance, the Indian government recently introduced the consumer protection (e-commerce) rules in 2020 (Department of Consumer Affairs, 2020), aimed at safeguarding consumers in the e-commerce sector. These rules promote fair practices and transparency in online transactions and require merchants to provide comprehensive product information, address grievances promptly, avoid unfair practices, safeguard data privacy, and maintain transparency. Therefore, while small retailers are encouraged to leverage the advantages of social media platforms, they must operate within legal boundaries to ensure compliance with evolving regulations and uphold consumer trust.

7. IMPLICATIONS

7.1 Theoretical Implications

The research findings have significant theoretical implications for the field of retail marketing. The study has significantly improved current understanding of why retailers adopt social media. This was achieved by integrating the TAM and the TOE framework into the context of small retailers. The SOR framework was used to map the integrations. By viewing small retailers as organisms (O), the study developed a model to examine their perceptions of social media's perceived ease of use and perceived usefulness in marketing efforts. The TOE framework represented the external environment (S), and the intention to use (R) was explored. This approach allowed for a comprehensive understanding of retailers' intention to adopt social media. The study's unique framework has made an important contribution to the literature on retail marketing. While previous research has explored various dimensions of social media adoption, the integrated model of TOE and TAM in the context of small retailers has not been adopted before. Therefore, this study offers a novel approach to understanding retailers' adoption of social media. Furthermore, the study considered demographic variables such as the retail outlet's age and the retailers' age as moderators. The interrelationship of different constructs and moderators was also examined. This aspect of the study adds to the literature on retail marketing, as it provides a nuanced understanding of the factors that influence social media adoption by small retailers.

7.2 Practical Implications

The study has implications for small retailers and digital marketing facilitators or consultants. Three significant implications can be drawn from the study. The study's first important implication is in the readiness of small retailers to adopt social media. The relative advantage that small retailers is gaining is attracting them to online platforms. Big-size corporations dominate online platforms, but small retailers are becoming aware of the benefits offered by online platforms and populating this space. Promotional activities are easy to access for retailers. The second implication is a significant change in communication with end consumers. Small retailers should understand that digital platforms make consumer interaction easier and more productive. Moreover, retailers should feel comfortable and competent using online platforms. Small grocery retailers should outgrow the perception that social media and digital marketing are only for big companies. A third significant implication can be observed: intensive competition's effect. Retailers are becoming attracted to this medium for two reasons. First, the competition pushes them to adopt since not adopting social media may result in

losing a customer. Second, the fear of missing out in the form of the bandwagon effect also influences customers. Large or small, both types of players are moving towards the adoption of social media. Generated peer pressure is forcing small retailers to adopt new technology. The emergence of social media platforms can enhance the shift towards a unified retail business model that includes both physical and online sales channels. Social media platforms can help small retailers boost their online visibility, interact with customers instantly, and increase foot traffic to their brick-and-mortar shops and online stores. To enhance and simplify the execution of social media by small retailers, it is crucial to offer thorough training and resources customized to their requirements and capacities. One approach could be providing workshops or online tutorials on social media usage, guidance on content creation and marketing strategies, and tools and platforms tailored for small businesses to manage their social media presence efficiently. Moreover, promoting collaboration and knowledge exchange among small retailers through community networks or industry associations can expedite the integration of social media and enhance its advantages for moving towards a unified retail business model.

8. LIMITATIONS AND FUTURE RESEARCH

This study exhibits significant novelty by developing an integrated TAM-TOE-based model to explain small retailers' behavior. However, research was conducted only in India and should be conducted in other countries to corroborate the findings. The study considered retailer age and retail outlet age as moderating variables. Other studies may reach new insights by including the impact of location, agglomeration, and other socio-demographic variables to explain retailers' attitudes toward social media. The study was based on responses from small retailers in grocery stores (Rana & Dwivedi, 2016; Rana et al., 2019). Future research could also consider other sectors, such as electronic goods, perishable goods, and service providers. Similar studies could also be conducted for extended variables among technological, organizational, and environmental factors (Kizgin et al., 2020; Rana et al., 2011, 2012; Tamilmani et al., 2019).

9. CONCLUSIONS

This study was conducted to develop an integrated TAM-TOE model to understand small retailers' intention to adopt social media. The study's novelty lies in providing the desired model where previous research needed to be improved. The essential constituent of the retail industry is the retailer. However, no significant studies were carried out to examine the retailer's intention. The research studied technological, organizational, and environmental factors affecting perceived ease of use and perceived usefulness. perceived ease of use and perceived usefulness were further studied in relation to the intention to adopt the technology. The model was proposed, and an empirical study was carried out to validate it.

Among retailers, the adoption of social media was influenced by perceived ease of use and perceived usefulness. Essentially, retailers demonstrated readiness to embrace social media. Additionally, significant motivations and barriers to adopting social media were identified. The findings revealed that relative advantage, interaction, organizational competency and compatibility, competitive pressure, and bandwagon effect positively affect perceived ease of use and perceived usefulness, resulting in the intention to adopt social media technology. Organizational complexity did not significantly correlate with perceived ease of use and perceived usefulness, indicating that a major hindrance was mitigated due to dynamic environmental changes. Hence, it provides the answer to RQ1 and RQ2. The study has incorporated retailer and retail outlet age as moderating variables, which provides the answer to RQ3. Age plays a role in a retailers' digital literacy and openness to new technologies, impacting their readiness to utilize social media. The age of the outlet can influence the technological infrastructure and investment capacity, which in turn affects the feasibility and speed of social media integration among the Small Grocery Retailers. Findings highlighted that

Abbreviations used in the paper

TAM	Technology Acceptance Model
TOE	Technology Organization Environment
SOR	Stimulus-Organism-Response
SM	Social Media
IAT	Intention to Adopt Technology
PEU	Perceived Ease of Use
PVU	Perceived Usefulness
RLA	Relative Advantage
OCC	Organization Compatibility and Competency
ORC	Organisational Complexity
CPP	Competitive pressure
BAE	Bandwagon Effect

older retailers and retail outlets of greater age had a better understanding of the importance of social media. This suggests that with experience, the intention to utilize social media grows. Interestingly, younger retailers exhibited a faster adoption rate.

CONFLICTS OF INTEREST

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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