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Influence of Digital Literacy on Customer Purchase Intention: The Mediating Role of Social Media Usage and Moderating Impact of User Engagement and e-Word of Mouth

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Abstract. This research investigated the influence of digital literacy on customer purchase intention through the mediating role of social media usage and moderating impact of user engagement as well as e-word of mouth. A quantitative research design was used, and the data was collected from 184 consumers in Pakistan using convenience sampling technique. The study findings demonstrate that digital literacy and social media usage positively influences consumer purchase intention. Further, digital literacy has a positive impact on social media usage which depicts that all three direct relationship hypotheses of study are approved. Social media usage was also studied as a mediating link between digital literacy and purchase intention. Hence, the partial mediation effect suggests that digital literacy lead towards purchase intention through social media usage, hence, it provides a direction to consumer decision-making through active social media participation. The study also highlights the moderating role of user engagement, hypothesizing that more engaged consumers will amplify the impact of digital literacy on purchase intentions. The results depict that this hypothesize relationship is approved. The second moderating variable of the study "e-word of mouth (e-wom)" also approved which shows that consumers rely on e-wom, and it might be due to digital literacy. The contribution of this study is that digital literacy is an important aspect for consumer's purchase intention as digital literate consumers use social media more effectively and their engagement towards social media can increase the consumer purchase intention. Future researchers can gain valuable insight from current study as it covers the novel phenomenon in respect to digital literacy as it is the one of the drivers of consumer behavior with ever changing technological advancements with advent use of online shopping.

Key words: Digital Literacy, Consumer Purchase Intention, Social Media Usage, User Engagement

1 Introduction

In the modern digital era, digital literacy has become one of the primary drivers of consumer behavior. Understanding information from diverse resources displayed by device is skill to access content Tinmaz et al. (2023); Toquero and Talidong (2020), which can be considered an

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import skill for use in our society based on knowledge and the information that deluges society (Imjai et al., 2024; Martin and Madigan, 2006; Martínez-Bravo et al., 2022). As more consumers use digital platforms to learn and purchase goods and services, knowing the intricacies of digital literacy is an important weapon for marketers and businesses trying to connect with customers and sell products. The integration of digital literacy into the consumer decision-making process is particularly significant when considering the mediating role of social media usage. Social media has changed the way consumers directly interact with brands, find information, and even make purchase decisions. These platforms not only provide a wealth of information but also foster interactive and customized experiences, which have the power to completely change consumer behavior. Studies suggest that increased digital literacy results in a more proficient use of social media means and several other advantages for consumers who take well-considered shopping actions (Van Deursen and Van Dijk, 2014; **?**).

Furthermore, it is also important to consider the moderating effect of user engagement on the relationship between digital literacy and purchase intention. For example, user engagement such as the interaction, participation, and emotional attachment of a consumer to digital content may strengthen even moderate-the effects of digital literacy on purchase behavior. Engaged users search, elaboration and application behaviors that contribute positively to the effect of digital literacy on decisions related to buying (Brodie et al., 2011; Kozyreva et al., 2020). This study is intended to investigate complex relationships among digital literacy, social media use and user engagement on influencing purchase intention through customer experience. It can provide valuable information to marketers and businesses about these interrelationships example of the effects they can generate are enhancing customer engagement and sales through digital literacy. Understanding these factors is crucial for developing effective digital marketing strategies that resonate with the digitally literate consumer base.

2 Literature Review

2.1 Digital Literacy

Digital literacy is an essential skill to enable people to actively engage in a digital society. It includes the skills, competencies, and knowledge required to successfully navigate digital environments. Digital literacy skills are essential for economic growth, digital participation, social inclusion, and personal employability (Arslantas et al., 2024; Ferrari et al., 2012). As digital technology continues to permeate daily life and many economic sectors, the importance of digital literacy has grown significantly for most employees. While many jobs face the risk of becoming obsolete, many roles are commencing to require new knowledge, skills, and competencies. These changes depend on factors such as the specific industry, region, and occupation, as well as the role of stakeholders in handling social, economic, and political changes, all affect these changes. According to numerous surveys and research, the need for digital literacy has grown because of the rise in digitalization (Curtarelli et al., 2016). One of the main obstacles for integrating technology into academic courses is digital literacy (Blau et al., 2020). According to recent research, it is the collection of abilities and proficiencies required to successfully navigate a complicated and dispersed information landscape (Eshet, 2004). Six categories defined by Eshet-Alkalai and Soffer (2012), Digital Literacy Framework: (a) photo-visual thinking, which entails comprehending and utilizing visual information; (b) real-time thinking, which refers to processing multiple stimuli at once; (c) information thinking, which focuses on assessing and integrating information from multiple digital sources; (d) branching thinking, which is related

to navigating through non-linear hypermedia environments; (e) reproduction thinking, which entails using technological tools to create new content or remix existing content; and (f) social-emotional thinking, which is concerned with comprehending and putting online interactions into practice.

2.2 Purchase Intention

Digital marketing (DM) has come to be as an essential tool for companies seeking to improve their online presence (Narayanan et al., 2022). Online shopping has become a commonplace aspect of people's lives due to the extensive usage of the Internet and the quick development of technology. People's shopping habits and decision-making processes are changing because of this transformation, which presents both opportunities and difficulties in figuring out why they plan to shop online (Yones et al., 2023). Purchase intention is one of the primary areas addressed in business research, especially in marketing and management. It is noted that someone's intent to purchase online indicates their willingness to look for relevant information and select their desired goods or services. Numerous empirical studies have emphasized the significance of comprehending people's intention to adopt online purchasing in the arena of online shopping research (Savitri et al., 2022). Numerous elements that impact the intention to make an online purchase have also been uncovered by these studies.

2.3 Social Media Usage

The notion of social media encompasses social networking sites (SNSs) such as Facebook, LinkedIn, and Twitter, which enable users to establish relationships by creating personal profiles in addition to its networking capabilities, social media has transformed into an interactive platform that allows users to produce and share content more efficiently. Social media is "an online application, platform, and media that allow interaction, collaborative work, and content sharing," Social media marketing initiatives give companies great chances to establish individualized connections with customers and become closer to them (Kelly et al., 2013). According to their viewpoints, social media studies in the travel and tourism sector can be separated into customer and supplier studies, or by the factors, into studies that determine the requirements for social media use and its effects (Leung et al., 2013). Social media has an impact on social interactions and behaviors, making it an essential component of daily life (Gan and Wang, 2015). On the one hand, using social media makes it easier for knowledge to disseminate and foster interpersonal connections.

2.4 eWord of Mouth

The quality of electronic word-of-mouth (eWOM) defined as a persuasive impact of reviews or comments included in an informational message (Bhattacherjee and Sanford, 2006). When customers search for information, the quality of that information can influence their acceptance of it, concerning eWOM communication channels (Al-Ja'afreh and Al-Adaileh, 2020). The utility, clarity, and simplicity of the information offered are critical in determining how buyers perceive the quality of the information, which is an important factor when evaluating their potential purchase intentions. The purchasing intentions of consumers are significantly influenced by the quality of electronic word-of-mouth (eWOM). When browsing through the vast amount of information shared online, many customers look for references to support their decisions and

minimize their risk of making inaccurate choices. The number of online reviews or comments frequently serves as a measure for the value and popularity of a product. Park and Lee (2008), argues that consumer intentions to buy products or services are impacted by the amount of information they obtain and that they are more likely to trust product review websites. Surprisingly, customers are more likely to believe negative feedback than favorable ones. Sher and Lee (2009), conducted a study in which undergraduate students were asked to read product review websites to assess their attitudes. The results showed that students with lower levels of curiosity were more easily influenced by product reviews after reading several review sites.

2.5 User Engagement

Every month, around 4 billion people use Facebook and Instagram (Statista, 2020). Research indicates that 50% of Millennials and Generation Z plan to travel because of Social Networking Platforms (SNPs) like Facebook (Statista, 2020). Social media (SM) has an enormous effect on how customers evaluate products and services, share their thoughts and experiences, including tourism destinations and suppliers (Zeng et al., 2018). Customers are becoming more interested in material on social media platforms, such as peer-shared text, video, and visual posts on goods and services on social media networks like Facebook, Instagram (Filieri et al., 2021). Friends by disseminating product information and sharing unique events that help them to express (Wang et al., 2021). According to Lusch and Vargo (2006), customers concrete 'value-in-use,' which encompasses the advantages they derive from utilizing goods and services, by sharing their consumption experiences on SNPs.

2.6 Theoretical Framework

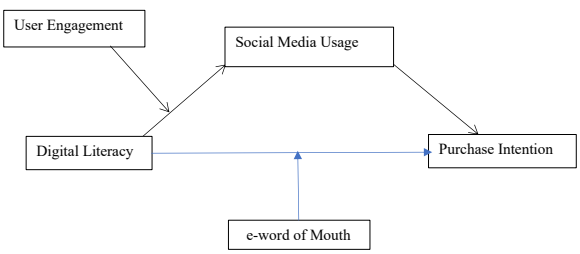

Figure 1: Theoretical Framework

H1: Digital literacy has a positive impact on purchase intention.
H2: Digital literacy has a positive impact on social media usage.
H3: Social media usage has a positive impact on purchase intention.
H4: Social media usage mediates the relationship between digital literacy and purchase intention.
H5: e-word of mouth moderates the relationship between digital literacy and purchase intention.
H6: User engagement moderates the relationship between digital literacy and social media usage.

3 Research Methods

3.1 Data Collection and Sample

The population of study was general consumers from whom questions related to technology usage; internet usage and devise usage were inquired in the demographic section of the question. The online survey was employed for data collection through a convenience sampling technique and quantitative analysis was conducted using Hayes process. Data was collected via social media platforms within a period of one month via a cross-sectional data collection method. A survey questionnaire was floated online through social media channels such as WhatsApp, Instagram, and Facebook. The survey was divided into two parts namely the demographic questions (gender, qualification, age, Internet usage, Device usage, and technology) and the study other variables. 350 questionnaires were distributed; however, the final sample size was 185 which shows 52% response rate from a respondent.

Table 1: Demographic Analysis: Descriptive Frequencies

Variables	Categories	Frequency	Percentages
Gender	Male	63	34.4
	Female	120	65.6
Age in Years	18-24	79	43.2
	25-34	67	36.6
	35-44	29	15.8
	45-54	8	4.4
	Above 54	0	0
Qualification	High School	40	16
	Bachelors	80	64
	Masters	60	36
	PhD	3	0.9
Technology Usage	Beginner	8	4.4
	Intermediate	65	35.5
	Advanced	110	6.6
Internet Usage	Smart phone	146	79.8
	Laptop	23	12.6
	Tablet	7	3.8
	Desktop Computer	7	3.8
Device Usage	Several time a day	138	75.4
	Once a day	8	4.4
	Few Times a week	29	15.8
	Rarely	8	4.4

From descriptive statistics Table 1 summarizes that total number of sample size was 184 a majority of the respondents in our study were female (65.5%) who are young adults in the age group of 18-24 years (43.2.%) and rest belong to other age groups, holding a bachelor's degree

(64%) Intermediate level of usage of Technology was (35.5%) and 79.8% of the participants use smart phone and rest other gadgets. And the people who use the internet several times a day were (75.4%).

3.2 Study Measures

The previous studies validated measurement scales (shown in Appendix 1) were used in this research. First, digital literacy based on 10 items scale was adopted from (Ng, 2012; Serap Kurbanoglu et al., 2006). Second, the validated 06 items were used to measure the purchase intention taken from McKnight et al. (2002); Wang and Chang (2013); Yoo and Donthu (2001), third, social media usage was measured through 10 items adopted by (Tuck and Thompson, 2024). Fourth, user engagement was measured through 09 items adopted by (Weman et al., 2011). And lastly, electronic word of mouth measure on 05 items were adopted by (Bambauer-Sachse and Mangold, 2011). Using point Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree) scale, respondents were asked to rate their level of strong agreement or disagreement with a set of statements on a particular topic.

Table 2: Descriptive Statistics of Variables

	Mean	Std. Deviation
DL	2.01	0.732
PI	2.29	0.837
UE	2.38	0.839
EWOM	2.06	0.675
SMU	2.33	0.714

n=183, DL=Digital Literacy, PI=Purchase Intention, UE=User Engagement, EWOM=Electronic Word of mouth, SMU=Social Media Usage

Descriptive statistics of the variables are shown in Table 2, including the mean values of digital literacy, purchase intention, user engagement, electronic word of mouth (e-WOM), and social media usage (SMU). The table reveals that digital literacy has the lowest mean value of 2.01 among all the constructs, indicating that the general sample population exhibits lower levels of digital literacy. Purchase Intention, with a mean of 2.29, and social media usage, with a mean of 2.33, is slightly higher but still relatively moderate. User engagement shows a higher mean value of 2.38, suggesting active engagement among users. Electronic word of mouth has a mean value of 2.06, indicating a moderate tendency to share opinions and recommendations online. Overall, these statistics provide an insight into the varying levels of these constructions within the sample population.

3.3 Tools for Analysis

We used the IBM statistical package for social sciences (SPSS 23.0) for data analysis, to meet the aim and to test hypotheses of this study. Descriptive analysis in SPSS 23.0 was used for preliminary results and details of the sample are presented in the following table. The reliability

of the measurement items was tested using Cronbach's α coefficient. Further, correlation and regression analysis were carried out.

4 Results and Discussion

4.1 Reliability Analysis

Reliability is the measure of internal consistency of constructs in the study. Cronbach's alpha coefficient is the most reliable and useful model to measure the reliability and internal consistency of constructs. A construct is more reliable when the alpha (α) value is greater than 0.70 (Hair et al., 2013). Hence, we assessed the reliability of items by using Cronbach's alpha (α). The results of the study revealed that digital literacy with 10 item scale (α= .901) and social media usage with 10 item scale (α= .841) has good reliability and internal consistency. Similarly, the user engagement with 09 item scale and purchase intention with 6 item scale were also found to be reliable at (α= .898), (α= .857) respectively. And electronic word of mouth with 05 item scale (α= .715) has good reliability results are summarized in Table 3.

Table 3: Reliability Statistics

Constructs	No. of Items	Alpha (α)
DL	10	0.901
SMU	10	0.841
UE	9	0.898
PI	6	0.857
EWOM	5	0.715

n=183, DL=Digital Literacy, PI=Purchase Intention, UE=User Engagement, EWOM=Electronic Word of mouth, SMU=Social Media Usage

4.2 Correlation Analysis

In Table 4, a two-tailed Pearson correlation test to check the strength and direction of the linear correlation between the two variables is presented. There are only three potential correlation coefficients: 1 for perfect positive correlation, 1 for perfect negative correlation, and 0 for no correlation at all. Yet a variable with an r of one is always simply the file itself (Ratner, 2009). As such, the findings of the study uncovered that there was positive relationship between digital literacy and their purchase intention (r=.351, p $<$. 001). The correlation value between social media usage and purchase intention is 0.412 which is significant at 0.01 level. The correlation value of user engagement and purchase intention is 0.646 with p$<$0.05 level, whereas the relationship between e-WOM and purchase intention is 0.506 which is significant at 0.01 level. Hence, all study variables are positively and significantly correlated with each other.

Table 4: Correlation Analysis

	PI	DL	SMU	UE	WOM
PI	1				
DL	.351**	1			
SMU	.412**	.479**	1		
UE	.646**	.477**	.568**	1	
e-WOM	.506**	.543**	.421**	.375**	1

***.Correlation is significant at 0.01 level (2-tailed). N=183, DL=Digital Literacy, PI=Purchase Intention, UE=User Engagement, e-WOM=Electronic Word of mouth, SMU=Social Media Usage*

4.3 Direct Relationship Analysis

Table 5: Direct Path Results

	Coefficient	SE	t value	P value	LLCI	ULCI
DL-PI	0.2279	0.0796	2.6249	0	0.2444	0.5584
DL-SMU	0.4671	0.0636	7.3468	0	0.3416	0.5925
SMU-PI	0.3715	0.0891	4.1708	0	0.1958	0.5473

n=183, DL=Digital Literacy, PI=Purchase Intention, UE=User Engagement, e-WOM=Electronic Word of mouth, SMU=Social Media Usage

The direct effect in Table 5 is showing that all direct relationships are positive and significant. The results indicate that digital literacy has a positive and significant impact on purchase intention (β=.2279, P<0.05), the relationship between digital literacy and social media usage is positive and statistically significant as β value is .4671, P-value is less than 0.05. The impact of social media usage on purchase intention is also reported as positive and significant (β=.3715, P<0.05). Hence, all three direct relationship results are positive and significant which depicts that consumers who are digital literate are creating a positive and significant impact of purchase intention and social media usage. At the same time, social media usage also lead towards purchase intention as many companies are promoting and selling on a social media.

Table 6: Mediation Analysis (DL-SMU-PI)

Total effects			Direct effects			Indirect effects		
Coefficient	**T value**	**P value**	**Coefficient**	**T value**	**P value**	**Coefficient**	**BootLLCI**	**BootULCI**
0.4014	5.048	0	0.2279	2.6249	0	0.1735	0.0758	0.2751

p-value is significant

Mediation results (see table 6) indicate that both total and direct effects are positive and significant as all coefficients show positive values and $p<0.05$. The bootstrap results for mediation analysis indicate that both Bootstrap lower and upper-level confidence intervals are in same direction and there is no zero-value shown, hence, resulted in partial mediation. Therefore, social media usage partially mediates the relationship between digital literacy and purchase intention.

4.4 Moderation Analysis

Table 7: Moderation Analysis (User Engagement)

	coeff	Se	t	p	LLCI	ULCI
constant	-0.0786	0.3237	-0.2404	0.8103	-0.7144	0.5593
DL	0.8402	0.1809	4.6442	0	0.4832	1.1972
UE	0.7676	0.1281	5.9918	0	0.5148	1.0203
Int_1	-0.2177	0.0639	-3.4058	0	-0.3439	-0.0916

n=183, SMU=Social Media Usage (outcome variable), DL=Digital Literacy, PI=Purchase Intention, UE=User Engagement, EWOM=Electronic Word of mouth

The moderation analysis through Hayes process Model 1 in Table 7 shows that digital literacy has a significant effect (coeff = 0.8402, p = 0.000). User Engagement (UE) also shows a significant positive effect (coeff = 0.7676, $p<0.05$). Although, the p value interaction term (Int_1) is significant (coeff=-.21, $p<0.05$), indicating that UE is moderating the relationship between DL and social media usage such that it weakens the relationship

Table 8: Moderation Analysis (e-word of mouth)

	coeff	se	t	p	LLCI	ULCI
constant	-0.3387	0.5278	-0.6418	0.5218	-1.3802	0.7027
DL	0.7658	0.2706	2.8304	0.0052	0.2319	1.2998
e-WOM	1.1495	0.2555	4.4984	0	0.6452	1.6537
Int_1	-0.29	0.1159	-2.5013	0.0133	-0.5187	-0.0612

n=183, PI=Purchase Intention (outcome variable), DL=Digital Literacy, UE=User Engagement, EWOM=Electronic Word of mouth, SMU=Social Media Usage

The moderation analysis through Hayes process Model 1 in Table 8 shows that digital literacy has a significant effect (coeff = 0.7658, p =0.0052). e-WOM also shows a significant positive effect (coeff=1.1495, $p<0.05$). While the moderating variable between digital literacy and purchase intention the results are coeff=-.29, p-value=0.0133 is significant, hence approving the moderating relationship such that it weakens the relationship.

5 Discussion

The purpose of this research was to analyze the influence of digital literacy on customer purchase intention with the mediating role of social media usage and moderating impact of user engagement and e-word of mouth. The study employed Cronbach's alpha coefficients to ensure the reliability of its measurement scales, revealing strong internal consistency across digital literacy ($\alpha = 0.901$), social media usage ($\alpha = 0.841$), user engagement ($\alpha = 0.898$), and purchase intention ($\alpha = 0.857$). These results show robustness in measuring these constructions within the study, aligning with established standards (Hair et al., 2013). Digital literacy was found to be significantly positively correlated with both purchase intention ($r = 0.351$, $p < 0.001$) and social media usage ($r = 0.4671$, $p < 0.001$). This suggests that higher levels of digital literacy correspond to increased engagement with social media platforms and stronger purchase intentions among consumers. Furthermore, digital literacy has shown a clear positive impact when controlling social media usage, digital literacy exhibited a direct positive effect on purchase intention (coefficient = 0.2279, t = 2.6249).

All three direct relationship hypotheses as shown in table 5 show positive and significant impact. These results help to clarify how important digital literacy is in influencing modern consumer behavior in digital environments. As consumers become more proficient in utilizing digital tools and platforms, their engagement with social media emerges as a crucial mechanism through which digital literacy influences purchasing decisions. Further investigation into indirect relationships highlighted that social media usage serves as a partial mediator between digital literacy and purchase intention. The mediation analysis indicated a partial mediation as shown in table 6, highlighting the role of social media engagement in translating digital literacy into consumer purchase decisions. Furthermore, both moderating variables show the moderating results are approved (see table 7 and 8) as p-value is significant. This shows that consumers are becoming more digitally self-literate, therefore, consumers also rely on word of mouth, hence, directly taking purchase decisions.

6 Conclusion

Based on the study's findings, it is evident that digital literacy plays a significant role in influencing consumer behavior through social media usage. The study reveals a positive correlation between digital literacy and both social media usage and consumer purchase intention. This suggests that consumers with higher digital literacy levels are more likely to indulge into social media platforms and demonstrate stronger intentions to make purchases. Moreover, the study highlights that social media usage partially mediates the relationship between digital literacy and purchase intention, underscoring the importance of effective digital strategies in consumer decision-making processes. This study contributes valuable insights into how digital literacy and social media usage collectively shape consumer purchase intentions in the digital age.

6.1 Limitations and Future Implications

It is important to acknowledge limitations in the study. The research data was collected from only Rawalpindi and Islamabad, therefore, potentially limiting the generalizability of findings. Future studies could expand the scope to include other cities of Pakistan, as well as explore additional variables that may influence the relationships identified in this study. Due to time

constraints, the sample size is small and may reduce the generalizability of the results too, so future studies can gain more generalizability of the research on large sample size. This research has only used quantitative approach from Pakistani consumers. So, further qualitative research may be carried out to explore whether this may differ in other cultural and religious contexts to assess the generalizability of the findings on a global scale.

References

Al-Ja'afreh, A. and Al-Adaileh, R. (2020). The impact of electronic word of mouth on consumers purchasing intention. *Journal of Theoretical and Applied Information Technology*, 98(02):183–193.

Arslantas, T. K., Yaylacı, M. E., and Özkaya, M. (2024). Association between digital literacy, internet addiction, and cyberloafing among higher education students: A structural equation modeling. *E-learning and Digital Media*, 21(4):310–328.

Bambauer-Sachse, S. and Mangold, S. (2011). Brand equity dilution through negative online word-of-mouth communication. *Journal of retailing and consumer services*, 18(1):38–45.

Bhattacherjee, A. and Sanford, C. (2006). Influence processes for information technology acceptance: An elaboration likelihood model. *MIS quarterly*, pages 805–825.

Blau, I., Shamir-Inbal, T., and Avdiel, O. (2020). How does the pedagogical design of a technology-enhanced collaborative academic course promote digital literacies, self-regulation, and perceived learning of students? *The internet and higher education*, 45:100722.

Brodie, R. J., Hollebeek, L. D., Jurić, B., and Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of service research*, 14(3):252–271.

Curtarelli, M., Gualtieri, V., Jannati, M. S., and Donlevy, V. (2016). Ict for work: Digital skills in the workplace. *Study for the EC, DG CONNECT. https://ec. europa. eu/digital-single-market/en/news/ict-work-digital-skills-workplace*.

Eshet, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of educational multimedia and hypermedia*, 13(1):93–106.

Eshet-Alkalai, Y. and Soffer, O. (2012). Guest editorial–navigating in the digital era: Digital literacy: Socio-cultural and educational aspects. *Educational Technology & Society*, 15(2):1–2.

Ferrari, A. et al. (2012). *Digital competence in practice: An analysis of frameworks*, volume 10. Publications Office of the European Union Luxembourg.

Filieri, R., Lin, Z., Pino, G., Alguezaui, S., and Inversini, A. (2021). The role of visual cues in ewom on consumers' behavioral intention and decisions. *Journal of Business Research*, 135:663–675.

Gan, C. and Wang, W. (2015). Uses and gratifications of social media: a comparison of microblog and wechat. *Journal of systems and information technology*, 17(4):351–363.

Hair, J. F., Ringle, C. M., and Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long range planning*, 46(1-2):1–12.

Imjai, N., Promma, W., Usman, B., and Aujirapongpan, S. (2024). The intertwined effects of digital literacy, agile mindset on design thinking skill and management control competency: Insights from thai young accountants. *International Journal of Information Management Data Insights*, 4(2):100244.

Kelly, L. A., McMillan, D. G., Anderson, A., Fippinger, M., Fillerup, G., and Rider, J. (2013). Validity of actigraphs uniaxial and triaxial accelerometers for assessment of physical activity in adults in laboratory conditions. *BMC medical physics*, 13(1):5.

Kozyreva, A., Lewandowsky, S., and Hertwig, R. (2020). Citizens versus the internet: Confronting digital challenges with cognitive tools. *Psychological Science in the Public Interest*, 21(3):103–156.

Leung, D., Law, R., Van Hoof, H., and Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. *Journal of travel & tourism marketing*, 30(1-2):3–22.

Lusch, R. F. and Vargo, S. L. (2006). Service-dominant logic: reactions, reflections and refinements. *Marketing theory*, 6(3):281–288.

Martin, A. and Madigan, D. (2006). *Digital literacies for learning*. Facet Publishing.

Martínez-Bravo, M. C., Sádaba Chalezquer, C., and Serrano-Puche, J. (2022). Dimensions of digital literacy in the 21st century competency frameworks. *Sustainability*, 14(3):1867.

McKnight, D. H., Choudhury, V., and Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *The journal of strategic information systems*, 11(3-4):297–323.

Narayanan, S., Gruber, J., Liedtke, G., and Antoniou, C. (2022). Purchase intention and actual purchase of cargo cycles: Influencing factors and policy insights. *Transportation Research Part A: Policy and Practice*, 155:31–45.

Ng, W. (2012). Can we teach digital natives digital literacy? *Computers & education*, 59(3):1065–1078.

Park, D.-H. and Lee, J. (2008). ewom overload and its effect on consumer behavioral intention depending on consumer involvement. *Electronic commerce research and applications*, 7(4):386–398.

Savitri, C., Hurriyati, R., Wibowo, L. A., and Hendrayati, H. (2022). The role of social media marketing and brand image on smartphone purchase intention. *International Journal of Data & Network Science*, 6(1).

Serap Kurbanoglu, S., Akkoyunlu, B., and Umay, A. (2006). Developing the information literacy self-efficacy scale. *Journal of documentation*, 62(6):730–743.

Sher, P. J. and Lee, S.-H. (2009). Consumer skepticism and online reviews: An elaboration likelihood model perspective. *Social Behavior and Personality: an international journal*, 37(1):137–143.

Statista, T. R. (2020). 28.03. 2020 tarihinde https://www. statista. com/statistics/1108088/products-and-services-people-spend-more-ondue-to-the-covid-19-pandemic/. adresinden erişilmiştir. su, s., wong, g. ve shi, w.(2016). epidemiology, combination and pathogenesis of coronavirus. *Journal of Trends Microbiol*, 24:490–502.

Tinmaz, H., Fanea-Ivanovici, M., and Baber, H. (2023). A snapshot of digital literacy. *Library Hi Tech News*, 40(1):20–23.

Toquero, C. M. and Talidong, K. J. (2020). Webinar technology: Developing teacher training programs for emergency remote teaching amid covid-19. *Interdisciplinary Journal of Virtual Learning in Medical Sciences*, 11(3):200–203.

Tuck, A. B. and Thompson, R. J. (2024). The social media use scale: Development and validation. *Assessment*, 31(3):617–636.

Van Deursen, A. J. and Van Dijk, J. A. (2014). The digital divide shifts to differences in usage. *New media & society*, 16(3):507–526.

Wang, J.-C. and Chang, C.-H. (2013). How online social ties and product-related risks influence purchase intentions: A facebook experiment. *Electronic Commerce Research and Applications*, 12(5):337–346.

Wang, T., Mai, X. T., and Thai, T. D.-H. (2021). Approach or avoid? the dualistic effects of envy on social media users' behavioral intention. *International Journal of Information Management*, 60:102374.

Weman, E. A. et al. (2011). Consumer motivations to join a brand community on facebook. Master's thesis, Hanken School of Economics.

Yones, P. C. P., Muthaiyah, S., et al. (2023). ewom via the tiktok application and its influence on the purchase intention of somethinc products. *Asia Pacific Management Review*, 28(2):174–184.

Yoo, B. and Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of business research*, 52(1):1–14.

Zeng, X., He, S., Liu, K., and Zhao, J. (2018). Large scaled relation extraction with reinforcement learning. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 32.