Agile Interaction in Social Media and Brand Equity: A Moderator Effect using Smart PLS

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.907000225

Received: 03 July 2025; Accepted: 10 July 2025; Published: 07 August 2025

ABSTRACT

The purpose of this study is to develop and test a research model that investigates the moderating role of agile interaction on the relationships between social media usage and brand equity. The model also seeks to test the impact of entertainment, information sharing, relationship development and self-presentation usage of social media and tests the moderating role of agile interaction. A sample of 280 first year students at business school was surveyed. This current study implements the two–stage method where this method used the latent variable scores of the latent predictor and latent moderator variable from the main effect model. The result indicates that agile interaction is not significant in moderating the relationship between social media usage and brand equity. In terms of practical contributions, this study offers accurate and comprehensive guidance on the planning and rationalization of social media usage in an agile interaction strategy for the branding development of PHEIs but somehow the limitation was Most universities in Malaysia adopt a closed-door policy, hindering the public from accessing information about their operations. This policy has created some difficulties in approaching the respondents and limitations in getting relevant information related to the real issues that are occurring. The results of this paper can guide future research about the development of agile interaction during the next decades or years and serve as a facilitator for researchers and for managers that want to know more about the topic. The main contribution is to extend previous research on the benefits of social media usage and the consequences of agile interaction in enhancing brand equity.

Keywords— Social media usage, customer engagement, agile interaction, brand equity, PHEIs

INTRODUCTION

Agile is a set of values and principles and it gives a foundation for teams to make decisions that lead to better outcomes. The actual definition of Agile is found in the Agile Manifesto. The Manifesto makes it clear that Agile is not a methodology. It is not a specific way of doing software development. It is not a framework or a process. In fact, most of the things that are marketed as Agile tend to miss the point of what Agile actually is.

To our knowledge, there are very few literatures that have attempted to formulate an agile method in engaging customers. The most prominent works that focused on agile communication are by [1], [2], [3] on the other hand studied how manufacturers applied an agile marketing strategy in their operations while [4] studied on how fashion companies applied agility in the design process to respond quickly to consumer requests. Social media usage, customer engagement, agile communication and customer-based brand equity have been examined separately in several studies, and the four variables have never been examined simultaneously in the educational context. The present study aims to fill this gap by examining the relationships between social media usage, customer engagement, agile and customer-based brand equity in the context of higher education institutions.

LITERATURE REVIEW

Due to the increasing importance of real-time connection with customers in business, the researcher decided to

utilize agile communication as a moderating variable. The moderating effect of agile communication is postulated to be able to strengthen the relationship between social media usage and customer-based brand equity improvement. There is a tendency for potential students to effectively use the social media channels chosen by the university. As suggested by [5], customers who are satisfied with their engagement experience while using the institution's social media will develop loyalty in their future action decisions. Although extensive research has been carried out on agility, no single study had adequately examined the employment of the agile method in engaging customers so as to enhance the institution's brand. Therefore, this issue needs to be investigated further because it may provide meaningful information for HEIs in the quest of enhancing their customer-based brand equity.

Activating participation is the critical success factor of social media engagement, and it is a significant challenge for researchers and practitioners to find ways to engage and direct the participants' attention to useful purposes [6]. The content remains important for attracting people to a site, but interactivity is insufficient. Therefore the organisations need to proactively seek to use interactivity as a basis for beneficial communication [7]. On the other hand, inadequate customer involvement on these agile projects led to adverse consequences for the self-organizing agile teams. These include pressure to over-commit, problems in gathering and clarifying requirements, problems in prioritizing requirements, problems in securing feedback, loss of productivity, and in extreme cases, business loss [8]. The above arguments lay the foundation for our final hypotheses, in which we posit that the effect of social media strategic capability due to this finding, practitioners will be able to develop a more agile strategy.

Applied theory

The philosophy of harnessing loyal customers to become part of the sales and marketing team has increasingly become a driver of many industrial firms' marketing and sales efforts [9]. Nowadays, the country has reached an economy of attention where a wealth of information produces a lack of attention and a need to effectively distribute the knowledge to the overabundance of information and entertainment sources that might consume it. By simplifying the systems' usability, maximizing people's utility, and giving people multiple controls, agility will help people to allot their attention efficiently and thus giving great gratification [10].

Consequently, having an on-line and real-time engagement can serve as a powerful management instrument. This system will provide management with a continuously updated database of its customers and continuous information about the degree of satisfaction and dissatisfaction among customers [11]. Interaction among users can also contribute to the formation of virtual communities, where people gather due to shared interests, sociability, identity, and sense of communion. Given that virtual communities are often built around user-generated contents, responding to content is argued to be an integral part of community development since it can be used in their evaluations of customer-based brand equity reinforce dynamic content creation [12].

According to [13], Task-Technology Fit is operated as a forecaster of performance. TTF is suitable to explain how technology indicates the performance. To have an affirmative effect, the technology must be utilized and apt with the tasks. When customers understand the business task plan, it is more likely that the system will fit the assignment required. In this way, user involvement influences not only client commitment, but also the quality of the system. [14] noted that information technology would be able to assist each individual end user in performing their task. This view is supported by [15] who stated that the fit of the technology to the tasks is the degree to which the technology features suit to the task requirements. Meanwhile, [16] stated that the task characteristics, technology characteristics, task technology fit, and technology utilisation have impacts on performance.

The proposed theory can help analyse a situation in terms of the characteristics of the tasks, technology and individual use context and thus provide a starting point to achieve fit, assumingly a pre-condition for system success and performance [17]. Global competition is forcing enterprises to become agile. Agile business success is a company's ability to compete on constantly evolving, ever-fragmented global markets for high-quality, high-performance goods and services optimized for customers. In this endeavour, information technology (IT) plays an increasingly important role in facilitating the introduction of new products or services, in improving operational processes, and in guiding managerial decision making [18]. On the other hand, in the tourism context,

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue VII July 2025

the capabilities of social media should match the tourism service provider's strategies to engage customers.

Although many studies have established the contribution of the task-technology fit theory in affecting individual impact and performance in the use of information systems, not many has actually related this to the possibility of affecting customers engagement and how they value the customer-based brand equity. This is where this study seeks to contribute as the understanding of agility influence is extended further into customer engagement and customer-based brand equity enhancement in PHEIs. Initiatives carried out by PHEIs to engage its customers must at least contribute to enhancing its brand. Indeed, for PHEIs the possibility of repeat patronage and the idea of sustaining loyal customers is the ultimate aim in the quest of attaining superior competitive abilities.

Agile Interaction as Moderator

Moderators are variables that change the size (or direction) of the relationship between the intervention and the outcome. A moderator may either have a direct effect on the outcome, or it may interact with the intervention in a way that influences the relationship between the intervention and the outcome [19].

Customers have requested more prominent action from brands for a long time. In any case, that demand has become even louder as customers find their voices through the Internet. This will force organizations to work more closely with them. The customers eventually gives impact on the brands they interface with [20]. [2] found that agility significantly moderates the effect of cooperation on the efficiency of the supply chain. This finding obliges practitioners to develop a more agile supply chain by understanding how agility affects the supply chain and accordingly improves the supply chain. In the same vein, [21] found that agility has also shown to moderate the influence of cooperation on the efficiency of the supply chain. Agility is therefore an externally focused skill, whereas versatility is an inwardly focused skill. Notably, [22] asserted that teamwork can be enhanced, and that the efficiency of an agile supply chain has a positive impact.

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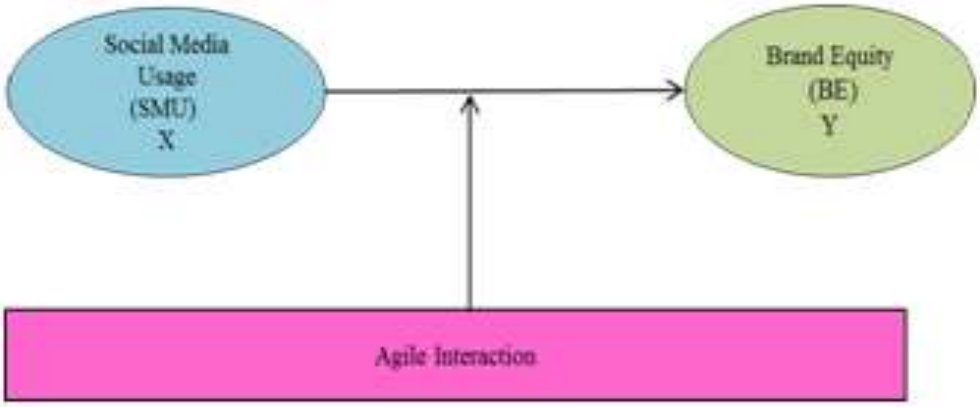
Hypothesis

H1: Agile interaction significantly moderates the relationship between social media usage and customer-based brand equity.



METHODOLOGY

Research design

The present research also applies the quantitative approach which seeks to quantify the data and typically applies some form of statistical analysis method in conducting the research. This enables the researcher to achieve precision by focusing on the numerical aspect of the survey data. According to [23], a quantitative research design is the best approach to obtain information from people in their natural environment. [24] also proposed that quantitative methods are better for testing or checking hypotheses, defining and correlating important variables presented by questions or assumptions using validity and reliability criteria and data analysis. Therefore, this method helps in examining the respondents' perceptions on the variables under study namely customer-based brand equity, social media usage, customer engagement and agile interaction by using Structural Equation Modelling (SEM) statistical analysis. A survey research design using a structured self-administered questionnaire is used to investigate the effect of agility on customer engagement and its impact on the customer-based brand equity of the PHEIs.

Data analysis used in this study was primarily conducted with the help of Smart PLS version 3.0 which is extensively used in Social Science studies. It is a path model that demonstrates the variables' relationship and the hypothesis to be tested [25]. In PLS-SEM, the term construct is used to describe a variable that is not directly measured by indicators, and for that reason is referred to as a latent variable.

Sample

The sample of respondents for this research was selected based on the location (Klang Valley) to represent the student population of Malaysian PHEIs as a whole [26][26][27]. Geographically, the scope of the study was confined to the Klang Valley specifically the urban areas. The main reason for selecting this location is because the highest numbers of PHEIs are located there. It is important to select established PHEIs as they have already branded themselves strategically. The target population entails students of PHEIs who have been registered to the respective PHEIs. This field of study was chosen because the researcher wants to get the needed information directly from the students or institutional customers about their opinion, observation, and experience using social media to interact with the brand page. The judgemental sampling technique was used because of its suitability in approaching potential respondents in a short time and its compatibility with the selected survey approach, thus permitting the researcher to motivate attention in the research, select prospective respondents, and enable the respondents to get further clarification if needed on the questions presented in the instrument.

Accordingly, a sample size of at least 100 and not exceeding 400 is considered adequate for Structural Equation Modelling (SEM) statistical analysis [28]. This is mainly because as the sample size becomes larger (>400), the procedure becomes more delicate and almost any difference is discovered, rendering the goodness-of-fit measures to indicate a poor fit. [29] further argued that any number above 200 is understood to provide enough statistical power for data analysis. As suggested, the sample size required for this study is 250 respondents which is also within the range of sample size proposed by [30]. The authors proposed that the ideal sample size ranges between 30 and less than 500. Therefore, to overcome the probability of non-response to the face-to-face survey method which commonly can be as high as 10 percent, the number of questionnaires or respondent targets should be higher than the intended sample needed. However, in this study the researcher able to collect, a total of 278 questionnaires/respondents [90% x 278 = 250] which is more than suggested by the literature. The individuals were chosen as they are eligible as the samples to complete the questionnaire. Nevertheless, during the actual data gathering, only 180 responses were usable for analysis. The remaining 98 were found to be invalid and incomplete.

ANALYSIS

Assessment of Moderating Analysis

A moderator changes strength on a causal relationship between a predictor and an outcome variable. The predictor may: 1) strengthen or weaken the relationship, or 2) may change the sign. In addition, a moderator is

not dependent on the predictor. There are two types of moderating variable: 1) Continuous, and 2) Categorical. The advantage of testing a moderating effect with SmartPLS is when it allows the inclusion of a formative construct, it runs even when the sample size is small and when the data does not possess the attributes of normal distribution. Furthermore, it offers three different methods of testing moderation which are: 1) Product indicator, 2) Two-stage (default), and 3) Orthogonalization. The product indicator uses all possible pairs and has a high prediction accuracy [31]. Product indicator is used when the sample size is medium to large. Meanwhile, the two-stage method uses the latent variable scores of the latent predictor and latent moderator variable from the main effect model. These latent variable scores are saved and used to calculate the product indicator for the second stage analysis[32]. The two-stage method has higher statistical power and should be used when orthogonalization failed to find significance in a small sample size [31]. The third method is orthogonalization which is used when the sample size is small; it uses residual which is calculated by regressing all possible pairwise product forms on all the indicators of the latent predictor and the latent moderator variable [33]. In the same vein, [31] assert that orthogonalization has a high prediction accuracy. This current study implements the two–stage method since the first attempt to use orthogonalization was not significant.

The moderating analysis then undergoes several steps to confirm the role of the moderating effect in the proposed model. Among the steps are:

Step 1: Assessing the value of R^2

Table 1 shows the value of the R2 change after the moderating effect (agile interaction) takes place in the model in the relationship between social media usage and customer-based brand equity. The R2 change of performance indicates that no change had happened. This indicates that there is no effect of the moderator construct in the relationship between social media usage and customer-based brand equity.

TABLE 1

Percentage of R^2 Change in Moderator Analysis using PLS Algorithm

Construct	**R^2 Before**	**R^2 After**	**Percentage of Change**
Customer-based Brand Equity	0.63	0.63	0

Step 2: Assessing the Value of Effect Size F^2

Since there is no change effect of the moderator, there is also no effect of the moderator in the relationship between social media usage and customer-based brand equity.

Step 3: Running Significant Test Using Bootstrapping

From the result in Table 2, the interaction term social media usage*agile interaction is not significant with a value of β = -0.01, and t-value = 0.263. This indicates that there is no significant relationship between social media usage and customer-based brand equity with agile interaction.

TABLE 2

Effect of Agile Interaction as a Moderator

Hypothesis	Relationship	β	t-value	p-values
H	SMU*AI -> Customer-based Brand Equity	-0.01	0.263	0.396

One tailed; t cut off = 1.645; p= 0.05

Step 4: Drawing the Interaction Plot

Even though there is no moderating effect of agile interaction in the relationship between social media usage and customer-based brand equity, it is clear that the interaction differs. This study uses the procedures proposed by [34] and [35] to plot the interaction. Figure 1 shows the interaction plot of the moderator analysis which indicates that the positive relationship between social media usage and customer-based brand equity will be higher if the agile interaction is high. This means that when agile interaction is high, social media usage will also be high. Although hypothesis of this study is confirmed to be not significant, it still has an impact.

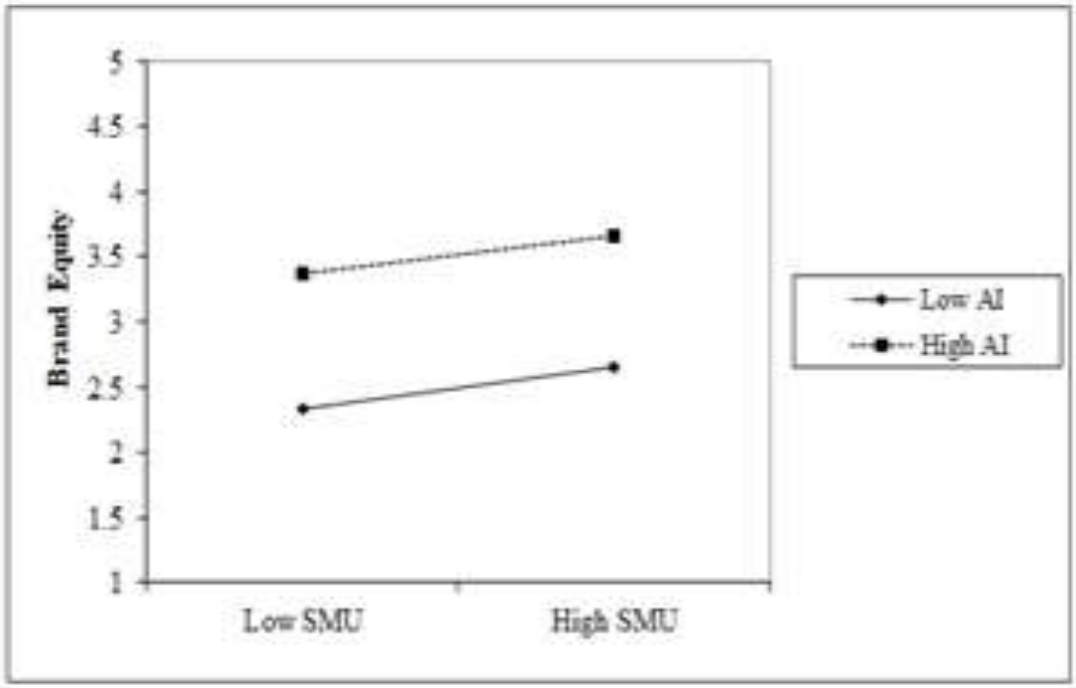


Figure 1: The Interaction Plot of the Moderating Analysis

FINDINGS

This analysis aims to assess the positive role of agile interaction as a moderator in the relationship between social media usage and the customer-based brand equity of PHEIs in Selangor, thus deriving hypothesis to respond to research question and fulfil the study objectives. To investigate the moderating role of agile interaction in hypothesis, several steps are tailed namely: (1) assessing the value of R2 Change, (2) assessing the value of effect size (f2), (3) running significant test using bootstrapping, and finally (4) drawing the interaction plot of the moderation effect. Table 5.3 demonstrates the outline of the estimation of the moderating role in hypothesis H5.

H: Agile interaction significantly moderates the relationship between social media usage and customer-based brand equity.

As illustrated in Table 2, it is evident that agile interaction does not perform a moderating role in this study. Agile interaction as a moderator has an insignificant effect in the relationship between social media usage and the customer-based brand equity of PHEIs. The results presented in Table 5.3 suggest that the interaction term social media usage*agile interaction is not significant as shown by the value of β =-0.01, t-value = 0.263, p-value = 0.396, implying that the negative relationship between social media usage and customer-based brand equity will not be stronger with a higher agile interaction. The R2 change of customer-based brand equity further reveals that there is no change of the R2 with the addition of the interaction term (social media usage*agile interaction).

In addition, absolute effect size refers to the difference between the average and mean outcomes in two different intervention groups. [36] and [37] suggested that f2 = 0.02 denotes a 'small' effect size, 0.15 signifies a 'medium'

effect size, and 0.35 indicates a 'large' effect size. Perhaps a minor interaction change can still be significant under climatic circumstances; these conditions are critical if the resulting beta changes are significant [38]. Figure 5.1 below illustrates that there is no change effect of the moderator. Therefore, there is no effect of the moderator in the relationship between social media usage and customer-based brand equity. It is further shown that the interaction plot of the moderator analysis indicates that the positive relationship between social media usage and customer-based brand equity will be higher if the agile interaction is high. Although hypothesis H5 of this study is confirmed to be not significant, it still has an impact.

In the same vein with the findings above, [39] proved in their study that agile methods may also have detrimental consequences on communication as the methods do not provide enough new communication tools. In another study by [40], it was found that no significant study had been conducted on agility in relation to marketing.

Although several studies had explored the topic of agility in business studies, none have integrated the need for agile interaction to enhance customer-based equity, especially in the education sector. Thus, this gap prompted the current study to empirically evaluate the role of agile interaction in enhancing branding. This study provided a contrasting finding that agile interaction has an insignificantly moderate effect in strengthening the relationship between social media use and customer-based brand equity.

In contrast to the findings above, [40] has argued on the efficacy of agile interaction on marketing performance. The study has asserted that even though many research have discovered the topic of agile marketing, no significant research has been done as a new emerging paradigm in the field of digital marketing has immerged. Meeting on a daily basis and removing unnecessary steps and processes should be done by cross-functional professionals' collaboration to achieve common goals. Thus, this gap has spurred the current study to empirically consider the role of agile interaction in organizational branding performance.

A contradictory result has been spawned in this study where it is discovered that agile interaction does not plays a role in strengthening the relationship between social media usage and customer-based brand equity. This result is also sustained by earlier literature [41] which has asserted that agile interaction can be a valuable resource as it facilitates the interactions of suppliers and increase the retail supply chain responsiveness. It is unique and imperfectly incomparable, delineation it as an attribute that differentiates one firm from another [42]. Furthermore, an agile interaction stimulates the effort of the individual towards achieving a mutual objective. In the context of fashion management, [43] has emphasized the significance of engaging in agile efforts in the management techniques in order to react to uncertainty and unpredictability of the fashion industry.

Meanwhile, in software industry using data collected from software-development professionals, [44] they discovered a positive relationship between agile project management and employees' perceptions of job characteristics. The finding showed that an essential value proposition of agile methods able to make people more motivated and satisfied with their jobs.

In line with other studies hypothesis H5 is confirmed to answer RQ5 such that a positive significant effect of agile interaction as a moderator in the relationship between social media usage and customer-based brand equity PHEIs in this research model. This research contributes important new insights concerning the branding strategy. Although agile interaction did not significantly moderate the relationship between social media usage and customer-based brand equity, the results are informative regarding agile interaction as a construct.

Agile interaction plays a role in strengthening the relationship between social media usage and customer-based brand equity which has been identified as inconsistent in introduction. Although the moderation result was insignificant, the result is nonetheless informative. It means that there is not sufficient evidence in the dataset to conclude that there is an effect in the population. Agile interaction was a non-significant moderator in the relationship between the two, suggest that the social media usage – customer-based brand equity relationship is strong, regardless of any kind of interaction practiced. Although values of a brand may increase as a result of an agile interaction, the need for agile interaction in social media usage in general does not.

A more agile interaction might increase the customer-based brand equity due to social media usage, but less agile interaction may still increase the customer-based brand equity due to other factors such as high awareness

about the brand. The customer already knows the brand very well through their positive experiences and associations. This due to the crowd sourcing (customers to customers interaction) practiced in social media usage itself. This includes open comments and review from other customers, where they can share whatever information and feedback through the social media usage.

Customers does not really depend on an agile interaction from the organization because they already fed with the information among themselves [45]. They are able to influence one another by creating fan group, forum chatroom or fan pages of a certain brand. For example, a potential customer would ask for help from a current customer to get more information before they really made a purchase. They also would ask for advice. opinion and reviews from another customer about the suitability of a specific product. The extent of customer awareness and experience, differentiate of types of interaction might practice by an organization. This could explain the finding that agile interaction was not a moderator in the social media usage – customer-based brand equity relationship. In accord with the present results, perhaps this relationship is not best explained via moderation.

IMPLICATION OF THE STUDY

While agile interaction is a promising concept in service marketing, the results indicate that its impact may not be universal across all demographics or contexts from a practical perspective. For first-year students at Malaysian PHEIs, social media usage alone may be sufficient to shape brand equity, particularly through peer-generated material and interactions. Universities should consequently focus on improving student-led communities and content sharing rather than depending too heavily on organizational responsiveness.

However, agile interaction may still be useful in other situations or with more advanced student cohorts. Institutions should review whether their communication agility aligns with the expectations and digital habits of their target audience. Future plans could benefit from combining agile principles with better customer insights obtained through qualitative feedback channels.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

There are several limitations to the current study that should be acknowledged. The sample has been restricted to first-year business students in the Klang Valley region, hence limiting the generalizability of the findings. Subsequent research should incorporate students from diverse academic tiers, multiple fields of study, and wider geographic areas to improve external validity.

The study utilized solely quantitative methodologies. This facilitated the use of SEM approaches but constrained the comprehension of students' perceptions and responses to agile interaction. Utilizing qualitative methods—such as interviews or open-ended survey questions—may yield more profound contextual insights into the absence of a strong moderating influence of agile interaction.

The study ultimately focused on a single moderating pathway. Future research may investigate additional potential moderators (e.g., digital literacy, institutional trust, prior brand awareness) or evaluate alternative models that examine the direct effects of agile interactions on brand outcomes.

REFERENCES

1. S. Panda and S. K. Rath, “Investigating the Structural Linkage between IT Capability and Organizational Agility: A Study on Indian Financial Enterprises,” J. Enterp. Inf. Manag., vol. 29, no. 5, 2016, doi: 10.1108/MBE-09-2016-0047.
2. M. Tarafdar and S. Qrunfleh, “Agile supply chain strategy and supply chain performance: complementary roles of supply chain practices and information systems capability for agility,” Int. J. Prod. Res., vol. 55, no. 4, pp. 925–938, 2017, doi: 10.1080/00207543.2016.1203079.
3. L. D. Hollebeek, R. K. Srivastava, and T. Chen, “S-D logic–informed customer engagement: integrative framework, revised fundamental propositions, and application to CRM,” J. Acad. Mark. Sci., vol. 47, no. 1, pp. 161–185, 2019, doi: 10.1007/s11747-016-0494-5.
4. L. Moi, F. Cabiddu, and M. Frau, “Conceptual Framework for Modeling the Agile Marketing

Capability," Glob. Fash. Manag. Conf., vol. 2018, no. July, pp. 71–90, 2018, doi: 10.15444/gmc2018.01.08.05.
5. I. M. O'Brien, W. Jarvis, and G. N. Soutar, "Integrating social issues and customer engagement to drive loyalty in a service organisation," J. Serv. Mark., vol. 29, no. 6–7, pp. 547–559, 2015, doi: 10.1108/JSM-02-2015-0085.
6. J. Carlson, M. Rahman, R. Voola, and N. De Vries, "Customer engagement behaviours in social media: capturing innovation opportunities," J. Serv. Mark., vol. 32, no. 1, pp. 83–94, 2018, doi: 10.1108/JSM-02-2017-0059.
7. B. Merrilees, "Interactive brand experience pathways to customer-brand engagement and value co-creation," J. Prod. Brand Manag., vol. 25, no. 5, 2016, doi: 10.1108/JPBM-04-2016-1151.
8. A. P. Siddaway, A. M. Wood, and L. V. Hedges, "How to Do a Systematic Review: A Best Practice Guide for Conducting and Reporting Narrative Reviews, Meta-Analyses, and Meta-Syntheses," Annu. Rev. Psychol., vol. 70, no. 1, pp. 9.1-9.24, 2019.
9. A. Shaalan, G. Agag, and M. Tourky, "Harnessing Customer Mindset Metrics to Boost Consumer Spending: A Cross-Country Study on Routes to Economic and Business Growth," Br. J. Manag., vol. 0, pp. 1–24, 2022, doi: 10.1111/1467-8551.12596.
10. O. M. Solaja and A. A. Ogunola, "Leadership Style and Multigenerational Workforce: A Call for Workplace Agility in Nigerian Public Organizations," Int. J. African Asian Stud. J., vol. 21, no. September 2018, pp. 46–56, 2016.
11. Christian Grönroos, "From Marketing Mix to Relationship Marketing: Towards a Paradigm Shift in Marketing," Manag. Decis., vol. 32, no. 2, pp. 4–20, 1994, doi: 10.1108/00251749410054774.
12. L. D. Hollebeek, B. Juric, and W. Tang, "Virtual brand community engagement practices: a refined typology and model," J. Serv. Mark., vol. 31, no. 3, pp. 204–217, 2017, doi: 10.1108/JSM-01-2016-0006.
13. D. L. Goodhue, "Task-Technology Fit," MIS Q., vol. 19, no. 2, pp. 213–236, 1995.
14. H. Chae and E. Ko, "Customer social participation in the social networking services and its impact upon the customer equity of global fashion brands," J. Bus. Res., vol. 69, no. 9, pp. 3804–3812, 2016, doi: 10.1016/j.jbusres.2015.12.072.
15. M. K. Feeney and E. W. Welch, "Technology–Task Coupling:Exploring Social Media Use and Managerial Perceptions of E-Government," Am. Rev. Public Adm., vol. 46, no. 2, pp. 162–179, 2016, doi: 10.1177/0275074014547413.
16. A. Bere, "Applying an extended task-technology fit for establishing determinants of mobile learning: An instant messaging initiative," J. Inf. Syst. Educ., vol. 29, no. 4, pp. 239–252, 2018.
17. V. Venkatesh, J. Y. L. Thong, and X. Xu, "Unified theory of acceptance and use of technology: A synthesis and the road ahead," J. Assoc. Inf. Syst., vol. 17, no. 5, pp. 328–376, 2016, doi: 10.17705/1jais.00428.
18. P. C. Verhoef et al., "Consumer Connectivity in a Complex, Technology-enabled, and Mobile-oriented World with Smart Products," J. Interact. Mark., 2017, doi: 10.1016/j.intmar.2017.06.001.
19. E. E. Field-Fote, "Mediators and Moderators, Confounders and Covariates: Exploring the Variables That Illuminate or Obscure the 'Active Ingredients' in Neurorehabilitation," J. Neurol. Phys. Ther., vol. 43, no. 2, pp. 83–84, 2019, doi: 10.1097/NPT.0000000000000275.
20. N. F. Ibrahim, X. Wang, and H. Bourne, "Exploring the effect of user engagement in online brand communities: Evidence from Twitter," Comput. Human Behav., vol. 72, pp. 321–338, 2017, doi: 10.1016/j.chb.2017.03.005.
21. D. M. Gligor, C. L. Esmark, and M. C. Holcomb, "Performance outcomes of supply chain agility: When should you be agile?," J. Oper. Manag., vol. 33–34, pp. 71–82, 2015, doi: 10.1016/j.jom.2014.10.008.
22. K. Jermsittiparsert, J. Sutduean, T. Sriyakul, and R. Khumboon, "The role of customer responsiveness in improving the external performance of an agile supply chain," Polish J. Manag. Stud., vol. 19, no. 2, pp. 206–217, 2019, doi: 10.17512/pjms.2019.19.2.17.
23. P. Serrador and J. K. Pinto, "Does Agile work? - A quantitative analysis of agile project success," Int. J. Proj. Manag., vol. 33, no. 5, pp. 1040–1051, 2015, doi: 10.1016/j.ijproman.2015.01.006.
24. J. W. Creswell, Research Design Qualitative, Quantitative and Mixed Methods Approaches. 2014. doi: 10.1017/CBO9781107415324.004.
25. J. F. Hair, G. T. M. Hult, C. M. Ringle, and M. Sarstedt, A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). 2017.

26. S. L. Azar, J. C. Machado, L. Vacas-de-Carvalho, and A. Mendes, "Motivations to Interact with Brands on Facebook – Towards a Typology of Consumer–Brand Interactions," J. Brand Manag., vol. 23, no. 2, pp. 153–178, 2016, doi: 10.1057/bm.2016.3.
27. I. Song, R. Larose, M. S. Eastin, and C. A. Lin, "Internet gratifications and internet addiction: On the uses and abuses of new media," Cyberpsychology Behav., vol. 7, no. 4, pp. 384–394, 2004, doi: 10.1089/cpb.2004.7.384.
28. J. F. Hair, M. Sarstedt, L. Hopkins, and V. G. Kuppelwieser, "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research," Eur. Bus. Rev., vol. 26, no. 2, pp. 106–121, 2014, doi: 10.1108/EBR-10-2013-0128.
29. S. L. Hoe, "Quantitative Methods Inquires ISSUES AND PROCEDURES IN ADOPTING STRUCTURAL," pp. 76–83.
30. U. Sekaran and R. Bougie, Research Methods for Business. 2016. doi: 10.13140/RG.2.1.1419.3126.
31. J. Henseler and W. W. Chin, "A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling," Struct. Equ. Model., vol. 17, no. 1, pp. 82–109, 2010, doi: 10.1080/10705510903439003.
32. H. Karjaluoto, J. Munnukka, and K. Kiuru, "Brand Love and Positive Word of Mouth: The Moderating Effects of Experience and Price," J. Prod. Brand Manag., vol. 25, no. 6, pp. 527–537, 2016, doi: 10.1108/JPBM-03-2015-0834.
33. C. Beckett, L. Eriksson, E. Johansson, and C. Wikström, Multivariate Data Analysis (MVDA). 2017. doi: 10.1002/9781118895238.ch8.
34. J. F. Dawson and A. W. Richter, "Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test,"
35. J. Appl. Psychol., vol. 91, no. 4, pp. 917–926, 2006, doi: 10.1037/0021-9010.91.4.917.
36. J. F. Dawson, "Moderation in Management Research: What, Why, When, and How," J. Bus. Psychol., vol. 29, no. 1, pp. 1–19, 2014, doi: 10.1007/s10869-013-9308-7.
37. J. F. Hair, W. C. Black, Barry J. Babin, and R. E. Anderson, Multivariate Data Analysis. 2014.
38. J. Cohen, Statistical Power Analysis for the Behavioral Sciences, Second Edi. Lawrence Erlbaum Associates, 1988.
39. O. S. Itani, R. Agnihotri, and R. Dingus, "Social media use in B2b sales and its impact on competitive intelligence collection and adaptive selling: Examining the role of learning orientation as an enabler," Ind. Mark. Manag., vol. 66, no. May, pp. 64–79, 2017, doi: 10.1016/j.indmarman.2017.06.012.
40. M. Pikkarainen, J. Haikara, O. Salo, P. Abrahamsson, and J. Still, "The impact of agile practices on communication in software development," Empir. Softw. Eng., vol. 13, no. 3, pp. 303–337, 2008, doi: 10.1007/s10664-008-9065-9.
41. G. Gera, B. Gera, and A. Mishra, "Role of Agile Marketing in the Present Era," Int. J. Tech. Res. Sci., vol. 4, no. 5, pp. 40–44, 2019, doi: 10.30780/ijtrs.v04.i05.006.
42. S. M. S. Rana, "Supply chain drivers and retail supply chain responsiveness: Strategy as moderator," Int. J. Manag. Pract., vol. 13, no. 1, pp. 1–22, 2020, doi: 10.1504/IJMP.2020.104066.
43. E. Afarjanc, "The Effect of Agile Process and Scrum Practices on the Rework and Defect Level of E-services," Hum. Resour. Dev. Rev., vol. 4, no. 3, pp. 17–45, 2018.
44. C. Prange, "Engaging with complex environments: why agility involves more than running hard," Int. J. Complex. Leadersh. Manag., vol. 3, no. 3, p. 182, 2016, doi: 10.1504/ijclm.2016.10001219.
45. J. F. Tripp, C. Riemenschneider, and J. B. Thatcher, "Job Satisfaction in Agile Development Teams: Agile Development as Work Redesign," J. Assoc. Inf. Syst. Res., vol. 17, no. 4, pp. 267–307, 2016.
46. T. A. Carte and C. J. Russell, "In Pursuit of Moderation: Nine Common Errors and Their Solutions," Manag. Inf. Syst. Res. Cent., vol. 27, no. 3, pp. 479–501, 2003.