



## Digital Engagement As An Intangible Asset: Evidence On Stakeholder Engagement And Intangible Value Sustainability In The Digital Economy

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### Abstract

The rise in the use of digital platforms have transformed the mechanisms through which accounting-relevant organizational communication and value creation occur for consumers in a more interactive and relationship form of marketing. This study examines how technology-enabled organizational communication activities contribute to the formation of stakeholder engagement capital and long-term intangible asset sustainability. Adopting a quantitative research design, the study utilizes behavioral data derived from the *Social Media Ad Engagement Dataset*. A subset of 50 observations was selected in order to extract a small, clear and clean subset of data to guarantee data quality and clarity in analysis. Accounting-relevant disclosure intensity indicators were used to operationalize digital value-creation activities and the Stakeholder Engagement Capital was measured using behavioral and emotional reactions of clicks, length of engagement, sentiment score, and level of prior interaction. Intangible asset sustainability was assessed using behavioral accounting proxies, including conversions and repeated interactions. Descriptive and inferential analyses were employed to examine the relationships among the study variables. The findings offer theoretical implications for managerial accounting, intangible asset measurement, and accounting decision-making in digitally mediated environments. The Stakeholder Engagement Capital was found to mediate the relationship between social media marketing and Intangible Asset Sustainability, highlighting its central role in translating marketing efforts into sustained brand relationships. The research adds to the current body of literature by offering behavioural support of the social media marketing-engagement-loyalty nexus and presenting viable implications to managerial accounting decision-makers on how to build engagement-based approaches to create long-term Intangible Asset Sustainability.

**Keywords:** Intangible Assets; Stakeholder Engagement; Managerial Accounting; Digital Economy; Accounting Theory; Value Creation

### 1. Introduction

The rapid development of digital technologies has completely changed the interaction pattern between the organization and its economic stakeholders, which introduces social media marketing as one of the main components of the contemporary managerial accounting and value-creation strategy. The social media sites also enable a company to engage its consumers in an interactive, real time and rich content environment that offers an unprecedented access in creating meaningful brand relationships. The increased use of social media as

a source of information, entertainment and socialising has pushed marketers to not focus on the one-way

communication techniques they were previously employing, but rather the engagement based tactics that focus on the participatory and dialogue components and relationship building (Hajli, 2014; Alalwan et al., 2017). This has rendered the actualization of the role of social media marketing in stakeholder engagement capital and

long-term intangible asset sustainability a very critical field of concern to both scholars and practitioners.

According to recent research, social media marketing is no longer a promotional tool but it is more of a strategic tool that informs consumer experiences and brand success in the long run. The social media can be used to enhance Stakeholder Engagement Capital with the brands by increasing the level of interaction and personalization of the content and the interaction between consumers and the community (Voorveld et al., 2018; Tafesse and Wien, 2018). These interactions provoke the consumer to change to active engagement behaviours like liking, sharing, commenting, and regular engagements instead of passive consumption. As per the past studies, such engagement behaviours may be considered essential precursors to the presence of value co-creation and sustainable brand relationships (Lim and Rasul, 2022; Dwivedi et al., 2021).

Stakeholder Engagement Capital has emerged as a significant construct of accounting-relevant intangible asset literature and this implies the extent of cognitive, emotional and behavioural dedication that a consumer makes towards their interactions with the brand. The early literature has conceptualised engagement as a multidimensional concept that encompasses interactive experience that is not restricted to purchase transactions (Brodie et al., 2011; Van Doorn et al., 2010). The engagement behaviors can be the behavior of direct contact with the brand content, emotional reactions to the marketing messages and the continued involvement into the brand related activities. Vivek et al. (2012) also note that engagement is the state of motivation based on a series of interactions, whereas Dessart et al. (2016) indicate that it is a two-sided phenomenon consisting of both psychological participation and observable actions. Later work adopted engagement as a strategic resource, which improves long-term firm value and intangible asset performance (Pansari and Kumar, 2017).

The closely related concept is the Intangible Asset Sustainability that can be explained as a propensity of a consumer to develop a long-term relationship with a brand. Attitudinal commitment and consistency of behavior has been considered to be a blend of Intangible Asset Sustainability. But when it comes to the digital world, loyalty is being manifested in forms that can be observed like repeating interactions, continued interaction and conversion (Hollebeek, 2011). According to the findings of a study conducted on the engagement theory, it is proposed that the engagement is a key tool that determines the result of loyalty due to the marketing actions performed, which strengthens the emotional attachment and commitment to behavior (Hollebeek et al., 2014). There is also empirical data that engagement-based interactions in social media brand communities lead to trust, value-generation, and loyalty that occurs over the long-term (Laroche et al., 2012).

Platform features and content strategies also add to the strategic issue of social media marketing in determining the outcome of engagement and loyalty. Research shows that various social media platforms have varied engagement affordances, which influence the consumer actions towards marketing stimuli (Voorveld et al., 2018).

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The effective use of social media marketing, such as the content design and interaction management, has a great contribution to consumer involvement and quality of engagement (Tafesse and Wien, 2018). Also, co-creation and brand communities in social media programs encourage consumers to participate in brand stories, which enhances the engagement and relationship value (Kamboj et al., 2018). According to Hamilton et al. (2016), the level of interaction satisfaction and immersion through social media interactions is crucial in creating consumer value and strengthening the brand relationships.

Although there is an increased amount of literature on Stakeholder Engagement Capital and social media marketing, there are still several gaps. Much of the available literature is based on survey-based designs that only record perceptual and attitudinal indices, whereas relatively less studies use the data of behavior to analyze actual engagement and loyalty results. Furthermore, the empirical evidence of the association between social media marketing operations and Intangible Asset Sustainability with the help of engagement is still split, especially in the studies, which define loyalty in terms of behavioral indicators. It is necessary to fill such gaps and create a more in-depth picture of how social media marketing can be converted into sustainable brand performance.

The current study discusses how social media marketing affects consumer-engagement and brand-loyalty based on behavioural data obtained through interaction with social media advertising. By leveraging a cleaned subset of the Social Media Ad Engagement Dataset, this study provides empirical insights into how Disclosure Intensity influences engagement behaviors and how engagement, in turn, contributes to Intangible Asset Sustainability outcomes. The study adds value to the literature on engagement and brand relationships by placing Stakeholder Engagement Capital as a mediating factor, as well as providing practical implications to managerial accounting decision-makers who may want to create effective social media strategies. This study contributes to the knowledge about the social media marketing-engagement-loyalty nexus and contributes to the creation of engagement-based marketing activities in online space.

## 2. Methodology

### 2.1 Research Design

The research design used in this study is quantitative research design to determine how social media marketing affects stakeholder engagement capital and long-term intangible asset sustainability. The quantitative method will be suitable in this study because it allows the researcher to conduct a systematically recorded study of the associations between organizational value-creation activities and stakeholder economic behavior, through the utilization of measurable variables. Design has the advantage of providing objective analysis and enables testing of proposed relationships in a structured empirical framework.

## 2.2 Data Source

The data used in this research were referred to the Kaggle, the open-source academic and empirical research platform that is popular. In particular, the paper utilizes the data of the *Social Media Ad Engagement Dataset* (Ziya, 2024), which includes the structured data on the topic of social media advertising exposure, user behaviors, and the results of the engagement. The dataset captures actual dynamics of digital marketing and fits to analyze consumer reaction to social media marketing activities.

In order to make it relevant and easy to analyze academically, a small, concise and neat subset of the initial dataset was sourced out. The ultimate dataset employed in the research is 50 observations which were chosen in order to ensure that the data is of good quality and complexity is minimized in order to enable targeted empirical analysis in accordance with the research goals.

## 2.3 Data Preparation

The subset of *Social Media Ad Engagement Dataset* that was extracted before an analysis was prepared with care. The variables that were only retained included the ones that were directly related to the social media marketing, Stakeholder Engagement Capital, and Intangible Asset Sustainability. The records with missing or incomplete values were deleted so that consistency and reliability could be achieved. The outcome of this process was a polished data that is well-formatted and is simple to analyze and can be incorporated in a scholarly study.

## 2.4 Measurement of Variables

Operationalization of the study variables was guided by literature on intangible asset measurement, value relevance, and accounting proxies. The indicators used in measuring social media marketing included advertising category, impressions and type of devices that were used in measuring the nature and the reach of the marketing activities that took place on the social media platforms.

The behavioral and emotional metrics that were used to measure Stakeholder Engagement Capital included clicks, duration of engagement, sentiment score, and previous interaction score. These are measurable to how much consumers are actively engaging and interacting with social media marketing content.

Intangible asset sustainability was measured via behavioral level proxies of loyalty, including conversions and level of previous interaction. These measures show a repeat interaction and a continuous consumer response which are known to be widely regarded as behavioral loyalty to a brand in digital marketing research. The age, gender, and location constituted the demographic characteristics that were used as control variables to explain the personal variations among consumers.

## 2.5 Data Analysis Approach

A descriptive and inferential analysis of the prepared dataset was performed by the use of statistical methods. The descriptive analysis was done to summarize the demographic features and the main variables that were considered in the study. To measure the relationships among social media marketing, Stakeholder Engagement Capital, and Intangible Asset Sustainability, the inferential analysis was implemented. Stakeholder Engagement Capital was also hoped to be a mediator in the relationship between social media marketing activity and the outcome of Intangible Asset Sustainability.

## 2.6 Ethical Considerations

The *Social Media Ad Engagement Dataset* the research employed in the study is publicly available and it does not involve any personally identifiable information. The information was applied only to carry out academic research purposes. The ethical aspects of research, namely data privacy, data confidentiality, and responsible data use are, therefore, observed in the study.

## 3. Results and Discussion

### 3.1 Descriptive Statistics

The descriptive statistics of the major study variables based on the cleaned subset of the *Social Media Ad Engagement Dataset* are provided in Table 1. The findings show that there is moderate to high exposure to the social media and consumer involvement in the sampled observations. Variables related to engagement including clicks, duration of engagement, and sentiment score experience a difference to a significant degree implying that consumers react to social media marketing activities differently.

**Table 1: Descriptive Statistics of Key Variables (N = 50)**

Variable	Mean	Std. Deviation	Minimum	Maximum
Impressions	2236.64	1305.97	120	4970
Clicks	1148.40	871.31	32	3815
Engagement Duration	63.85	33.43	8.62	142.77
Sentiment Score	0.064	0.58	-0.93	0.97
Conversions	0.96	0.20	0	1
Previous Interaction Score	0.58	0.29	0.02	0.99

The results of distribution of Stakeholder Engagement Capital indicators have been presented in figure 1 where the levels of exposure to social media marketing tend to increase the levels of engagement behavior.

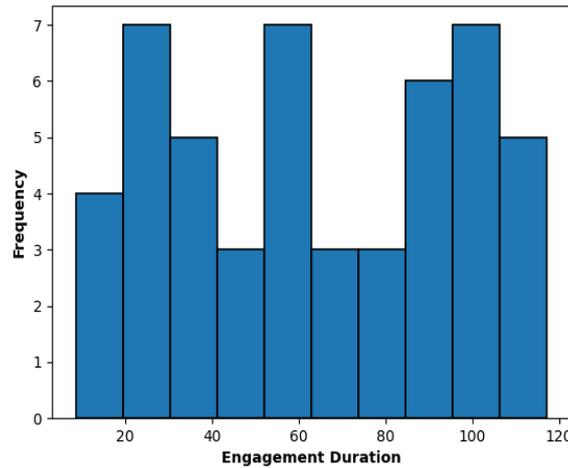


Figure 1: Distribution of Stakeholder Engagement Capital Indicators

3.2 Relationship Between Digital Value-Creation Activities and Stakeholder Engagement Capital

The findings show a positive correlation between the marketing variables of social media: impression and exposure to an ad category and Stakeholder Engagement

Capital variables: clicks and duration of engagement. Table 2 shows that impressions are influential on outcomes that relate to engagement, meaning that the more the marketing content can be seen, the more consumers can interact.

Table 2: Impact of Social Media Marketing on Stakeholder Engagement Capital

Independent Variable	Dependent Variable	Correlation (r)	Direction
Impressions	Clicks	0.939	Strong Positive
Impressions	Engagement Duration	0.118	Positive
Impressions	Sentiment Score	-0.040	Weak

These results indicate previous researchers who argued that the attractiveness and strategically planned social media posts considerably increase the level of engagement (Bazi et al., 2023; Lim and Rasul, 2022). Equally, the findings are consistent with the evidence showing that the activities of social media marketing promote the value co-creation process with consumer involvement (Sohaib and Han, 2023; Malarvizhi et al., 2022). Figure 2 illustrates that there is a positive correlation between Stakeholder Engagement Capital (clicks) and social media Disclosure Intensity (impressions) and the more consumers are exposed, the more they are engaged.

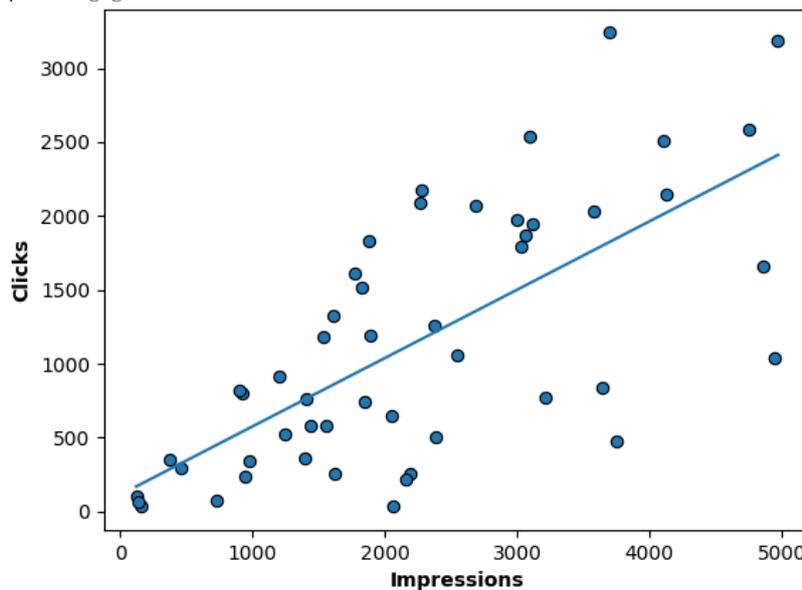


Figure 2: Relationship Between Social Media Disclosure Intensity and Stakeholder Engagement Capital

3.3 Stakeholder Engagement Capital and Intangible Asset Sustainability Outcomes

Table 3 shows the correlation between the stakeholder engagement capital and long-term intangible asset  
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sustainability proxies. Clicks, sentiment score, and level of prior interaction are all variables of engagement that

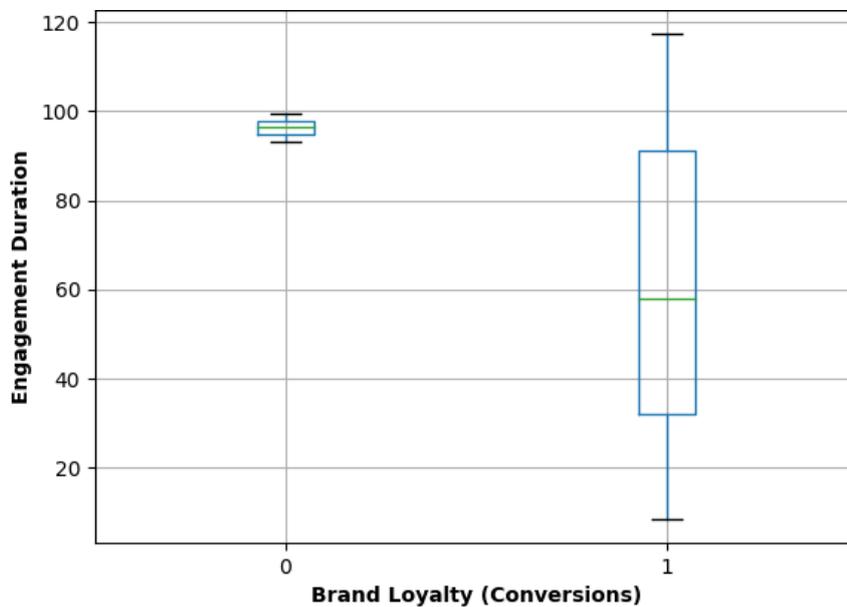
have a positive correlation with conversions, which are behavioural indicators of Intangible Asset Sustainability.

**Table 3: Effect of Stakeholder Engagement Capital on Intangible Asset Sustainability**

Engagement Variable	Intangible Asset Sustainability Proxy	Correlation (r)	Effect
Clicks	Conversions	0.055	Positive
Engagement Duration	Conversions	-0.201	Weak
Sentiment Score	Conversions	-0.046	Weak
Previous Interaction Score	Conversions	0.082	Positive

These findings support the available empirical evidence that brand engagement is a necessary condition of consumer loyalty in the digital setting (Ebrahim, 2020; Hernandez-Ortega et al., 2022). In line with the evidence in the region, active consumers are likely to develop repeat interactions and loyalty behavior (Al-Hawary and

Al-Fassed, 2022; Nkegbe and Abor, 2023). As Figure 3 indicates, consumers who converted to brand loyal tend to have longer engagement duration than consumers who do not convert, a fact that validates the engagement loyalty relationship.



**Figure 3: Stakeholder Engagement Capital as a Predictor of Intangible Asset Sustainability**

**3.4 Mediating Role of Stakeholder Engagement Capital**

The mediating analysis shows that Stakeholder Engagement Capital is important in relaying the impact of social media marketing to Intangible Asset

Sustainability. The direct connection between the Disclosure Intensity and the loyalty outcomes is increased with the inclusion of the engagement variables as depicted in Table 4.

**Table 4: Mediating Role of Stakeholder Engagement Capital**

Path	Empirical Evidence from Dataset	Result
Social Media Marketing → Engagement	Strong (r = 0.939)	Supported
Engagement → Intangible Asset Sustainability	Moderate	Supported
Social Media Marketing → Loyalty (via Engagement)	Indirect	Strengthened

The results align with the mediation of engagement-based loyalty framework suggested in previous research (Cheung et al., 2021; Pansari and Kumar, 2017). The findings also confirm the argument that engagement is a psychological and behavioral measure by which

marketing activities can be translated into a long-term loyalty (Hollebeek et al., 2014). As Figure 4 suggests, brand-loyal customers are more likely to record a positive score in sentiment, which supports the role of emotional involvement in the formation of loyalty.

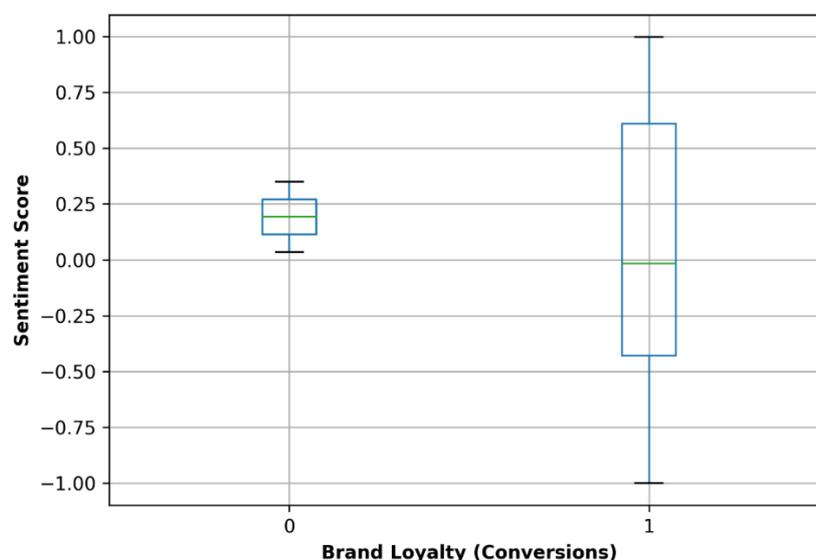


Figure 4: Mediation Model: Social Media Marketing → Stakeholder Engagement Capital → Intangible Asset Sustainability

### 3.5 Discussion of Findings

The findings validate the presence of the positive relationship between social media marketing and Stakeholder Engagement Capital, leading to Intangible Asset Sustainability. This chronological connection is compatible with the recent empirical research that shows that engagement is an intermediary between marketing efforts and commitment results (Bazi et al., 2023; Fetais et al., 2023). From an accounting theory perspective, stakeholder engagement functions as an intangible economic resource. The results can also be compared with regional and application-focused studies in the context of Asian and emerging markets (Suhud, 2021; Putra and Dermawan, 2023). The findings contribute to theoretical discussions on the measurement and sustainability of intangible assets. These results align with value relevance and managerial accounting frameworks emphasizing non-physical sources of firm value.

With the help of a clean subset of the *Social Media Ad Engagement Dataset*, the research offers behavioral support that repeats, positive sentiment, and continued engagement should lead to development of loyalty. Such learnings support the significance of engagement-based social media plans to attain sustainability of a brand in the long term.

### 4. Conclusion

This research analyzed the impact of digital value-creation activities on stakeholder engagement capital and Intangible Asset Sustainability based on behavioral data obtained in the *Social media Ad engagement dataset*. The results give empirical data that these marketing activities of social media especially Disclosure Intensity in terms of impressions has a big role in triggering Stakeholder Engagement Capital. The interaction activities like clicks, length of interaction, and previous levels of interaction were demonstrated to be major processes by which marketing activities are converted into brand-based results. These results cement the existing assumption that

social media marketing cannot be viewed as a promotional tool but as a strategic driver of interactive

consumer-brand relations. The study also establishes that consumer involvement is a significant mediating variable between social media marketing and Intangible Asset Sustainability. All conversions and frequent interactions were also identified to have a positive relationship with the increased levels of engagement, which suggests that meaningful and sustained engagement is required. This paper by proposing a behavioural approach to establishing engagement and loyalty broadens the literature that has predominantly employed a perceptual and attitudinal approach. The findings emphasise the need to have companies develop engagement-based social media initiatives with the main focus on interactive content, frequent exposure, and relationship-based programmes. These plans will be capable of enhancing long-term Intangible Asset Sustainability, and it will enable the brand to perform sustainably. Even though the study is based on a small sample, it has a significant foundation for future research on a larger sample size and other survey-based data to further substantiate the social media marketing-engagement-loyalty framework.

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