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RESEARCH ARTICLE

The Impact of Big Data Analytics on Fintech Brand Awareness: The Mediating Role of Sustainability in Green Financial Products

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ABSTRACT

This study aims to enrich existing theories investigating the role of Big Data Analytics (BDA) in improving FinTech brand awareness by exploring how sustainability via green financial products mediates the relationship. The study focuses on the intersection of advanced data analytics and sustainable finance practices within a fast-growing competitive industry. The analysis aims to observe how Big Data can be used for eco-friendly financial products to increase its reach to socially responsible investors. Method: Data was gathered via a survey of 200 FinTech professionals and consumers engaged in adopting sustainable financial products. Accordingly, results illustrate that Big Data Analytics and sustainability practices significantly enable bank awareness in the FinTech framework, namely a sustainable investment approach that can be a focal bridging element that leads the brand towards a sense of consumer responsibility and transparency in the organizational interface. While Big Data provides insights to tailor services and personalize offerings, the study finds that sustainability boosts brand and consumer loyalty. The research presents invaluable insights to FinTech companies and implies that including data-driven sustainability activities translates into adopted brand recognition, customer engagement, and long-term business success. Our findings present new insights for practitioners on capitalizing on Big Data and sustainability to achieve greater brand visibility in an increasingly environment-conscious marketplace.

INTRODUCTION

Growing brand awareness while managing ethical and sustainable business practices is becoming a daunting challenge in the particularly competitive and growing FinTech space(Munir et al., 2020). As a result, there has been a growing trend toward social responsibility, social awareness, and eco-friendly financial products, which is putting pressure on FinTech firms to align sustainability with finance, mainly through using Big Data Analytics for competitive advantage(Baryannis, et al., 2019). As a result, these are challenging times when the joint eco-system of analytics and sustainability must be embraced to thrive as a continuous prospective entity(Ali, et al., 2022). The current study explores how Big Data Analytics enhances FinTech brand awareness, along with its mediating effect through sustainability initiatives with an emphasis on green financial products(Kabra et al., 2019). With sustainability gaining momentum among consumers and regulators alike, FinTech companies are responding by incorporating green finance solutions from ESG (environmental, social, and governance) investments to carbon-conscious financial products(Wong et al,.2020). In particular, the adoption of Big Data in conjunction with such sustainable solutions is subject to solid challenges, specifically in how businesses and institutions can match customer preferences with novel and innovative solutions that are data-driven and environmentally friendly(Kwateng et al,. 2022). From utilizing predictive analytics to predict consumer demand for sustainable financial products to using customer behavior analytics to customize these offerings, FinTech firms must cross various technical, regulatory, and market hurdles to get noticed in the competitive financial services arena.Add to this the fickleness of consumer trends and the pace of change in financial technologies, and the task becomes even more vectored. In managing these complexities, Big Data Analytics can play a role by

deriving insights to understand market behavior, predict consumer demand, and improve customer experiences(Abidi et al,. 2020).. However, their success relies on embedding sustainability as a core business strategy. That is where sustainability is a mediating factor to fortify brand trust, visibility, and eco-likeness among the ever-growing number of eco-conscious consumers(Jeble et al., 2020). However, several gaps remain in understanding the relationship between Big Data Analytics with sustainability and its effect on FinTech brand awareness, as the above practices gain greater importance(Dolgui et al., 2019).This study adopts this educated stance and endeavors to fill these gaps by addressing the following research questions:

RQ1: The impact of Big Data Analytics on FinTech brand recognition via customer engagement and data-driven marketing strategies

RQ2: To what extent does sustainability through green financial products mediate the relationship between Big Data Analytics and FinTech brand awareness?

However, answering these questions will also provide helpful information about how FinTech firms can use Big Data to increase their brand visibility and help their practices align with the sustainability goals of an increasingly eco-conscious consumer base.

LITERATURE REVIEW

Customer Behavior Analytics

Customer behavior analytics involves collecting data from multiple customer touchpoints to understand and anticipate customer behavior, preferences, and buying patterns(Toorajipour et al,. 2021). Understanding customer behavior can be critical; this is especially true for the FinTech industry, as consumers are becoming more conscious of the sustainability of the products they choose. FinTech companies can keep track of consumer activity and can segment audiences based on their green finance interests using Big data tools such as machine learning and artificial intelligence, so as to develop specialized products that improve customer loyalty and brand awareness(Adem et al., 2018)Creating stronger consumer relationships based on eco and socially responsible investing trends is the goal of research that suggests this type of behavior analytics (A.Khan et al .,2009)

Predictive Analytics

Predictive analytics is a branch of Big Data Analytics that uses historical data and statistical algorithms to predict future trends(Kaming et al., 1997). Predictive analytics enables companies to predict changes in the market, shifts in consumer preferences, or potential changes in financial markets in the context of FinTech(Briscoe & Dainty, 2005). Such insights can assist the firms in improving marketing strategies, increasing the rate and quality of customer interaction, and developing new finance products or services that are sustainable for the changing trends of the green economy (Moeiny & Mokhlesi, 2011)There is literature stating that Companies can purchase predictive models that support predict green product demand and assist them in activities that are adapted to suit eco-friendly consumer needs and allow for improved brand recognition (Atkinson, 1999)

Market Trend Prediction

Data analytics can be used for multiple applications, one of the most prominent being market trends/predictions for FinTech or sustainable finance(Toorajipour et al., 2021). Using predictive analytics, FinTechs can analyze consumer behavior and market data that can be used to spot trends in the types of green financial products that customers desire and demandmanagement (Munir et al., 2020). . According to research, being ahead of the curve on sustainability trends consent firms to offer green financial products such as green bonds and environmental, social and governance (ESG) investments before they go mainstream in the market(Yang, 2014). This form of proactivity increases FinTech brand awareness, thus positioning these establishments as innovators within the sustainable finance ecosystem (Ali, Udin, & Abualrejal, 2023).

FinTech Brand Awareness

Brand awareness is one of the core parts of any business that will be recognized in the Fin-Techera (Atkinson, 1999). Big Data Analytics is just one of the many ways to help companies achieve a better understanding of consumer preferences and behavior in the market, which leadsto helping companies gain brand visibility and recognition. Through targeted marketing strategies, personalized user experiences, and innovative financial product development, FinTech companies can gain more visibility in the marketplace. Green financial products enhanced by Big Data have shown to substantially differentiate brands and earn long-term trust from consumers, especially the environmentally activist audience (Alshawabkeh et al., 2024), which is positively associated with their important decision-making behaviour.

Sustainability in FinTech

In addition, consumers and regulators are focus on environmental, social and governance (ESG) issues, making sustainability an increasingly relevant priority for the FinTech sector(Khaled et al., 2024). Sustainability does not just effect what type of products FinTech organisations are pushing to market, now its a key piece of the brand awareness puzzle(Eid, 2024). The achievement of such sustainable practice lessens the carbon footprint of FinTech companies therefore improving their brand image, thus making these companies profit-oriented and much more consequence-minded via green financial products and ESG investments. Customers strongly perceive social and environmental issues while choosing products as Big Data Analytics and sustainability (Barreto et al., 2017).

Theoretical Perspective: Resource Dependency Theory (RDT)

Resource Dependency Theory (RDT) applies when we discuss mediating role of external support Big Data Analytics and sustainability in FinTech. RDT states that in uncertain or disruptive times, organizations are unstable entities that rely upon external resources to survive (Shen et al., 2021). Then again, sustainability is becoming more valuable as an external resource for FinTech firms operating in turbulent marketplaces. As SCRM leverages its foundational partnerships in the case of disaster relief operations to alleviate the pains of crisis in terms of supply chain stability and resilience so do these emergent FinTech firms build upon external data sources and respective partnerships to negotiate the competitive field of play in which their success depends upon their brand's parlance (Allahham et al., 2024). Entities in the FinTech space often struggle with issues such as unpredictable consumer behaviour, shifts in regulation, and increased demand for sustainable financial solutions. That is forcing companies to rely on outsourced data and sustainability assets, which enable them to build a competitive advantage and perception. Much like supply chains affected by disasters, FinTech companies innovating in sustainable finance rely on external Big Data sources (i.e., customer data and market trends) to endure in a competitive environment (Nandi et al., 2020)). Here, the reliance of FinTech firms on Big Data Analytics and green financial innovations helps them break free from the constraints of market bottlenecks and improve offers and brand awareness (RDT). FinTech firms understand that they are not only entering a novel financial services industry but also that they are increasingly playing a role in an ecosystem of other products and services, as mentioned by RDT. One would think that disaster relief organizations like the United Nations and Red Cross are viewed as fast responders and ultimately sustainable contributors during calamities. Likewise, FinTech firms rely on external data, sustainability-oriented contributors, and collaboration to build brand recognition and develop sustainable financial products (Moshtari, 2012). As the eco-aware FinTech-world emerges these days, brand awareness is becoming more relevant and such external dependencies mediate in FinTech firms 'sustainability into core business strategy (Stentoft & Rajkumar, 2018)In terms of RDT, the dependence on big data and on sustainability resources enables FinTech companies to formulate strategies on how to develop offerings in line with new market trends and increased demand for green financial products. The amalgamation of external resources serves as a coping mechanism that enables FinTech companies to increase their visibility and brand awareness, especially in a space where sustainable practices are key in assuring customer engagement and long-term success (Ivanov, Dolgui, & Sokolov, 2019)Tapping into data-related innovations while leveraging sustainable policies and regulations enables FinTech firms to create practical solutions that meet the expectations of eco-aware consumers (Choi, Wallace, & Wang, 2018)

Hypothesis Development

A. Customer Behavior Analytics and FinTech Brand Awareness

Leveraging data-driven insights, Customer Behavior Analytics (CBA) also influences FinTech Brand Awareness through understanding consumer preferences, personalizing marketing strategies, and improving user engagement (Kavota et al.,2020)By analyzing customer engagement and activities, up to making their services according to what the customer needs, FinTech industry leaders can successfully build a brand. However, the power of CBA in creating brand awareness is made possible due to predictive analytics and market trend analytics. With that understanding we would lay out our hypothesis as follows:

H1: Customer Behavior Analytics has a positive impact on FinTech Brand Awareness.

B. Customer Behavior Analytics and Sustainability

FinTech is also registering withe the strategic approach towards sustainability, since these parameters come into play when making the decision to develop green financial products or finance corporate social responsibility projects. According to (Alazab, 2024)FinTech companies can use Customer Behavior Analytics to assess consumer demand for sustainable finance, which can help them tailor their green products and corporate strategies based on market expectations. Adoption of sustainability in CBA practices helps contribute to customer trust and company brand reputation, leading to better performance in the long run. Hence, the following hypothesis is given:

H2: Customer Behavior Analytics positively impacts Sustainability in FinTech firms.

C. Market Trend Prediction and FinTech Brand Awareness

One of the most integral functionalities within the FinTech industry is one of predicting the trajectory of the market trend prediction (MTP), helping firms forecast consumer demand, as well as the topography of the market and industry. To stay ahead of changing evolution of finances of consumers to trends, it is imperative for companies to take initiative to strategically promote their brand (Nandi et al., 2020)Predictive insights can help brands in developing awareness and relevancy, while building competitive advantage ways to show relevance of the financial products from the bank(Olivier Garos, 2020). Therefore, this study proposed the following hypothesis:

H3: Market Trend Prediction positively influences FinTech Brand Awareness.

D. Market Trend Prediction and Sustainability

Empowered with a market perspective of sustainability, FinTech firms can align themselves with trends on green finance, as well as remain compliant with growing environmental regulations from corporations and ensuring they meet those consumer demands for sustainable finance products. Sustainability battery of the hot trend in the green finance revolution and measures: Market Trend Prediction, allows us to find the common position of silica in the hot sustainability trend, enabling firms to develop hotspot analysis of green financial products, such as better corporate reputation and brand loyalty (Baryannis et al., 2019)Thus, novel hypotheses are proposed around this lens:

H4: Market Trend Prediction positively affects Sustainability in FinTech firms.

E. Predictive Analytics and FinTech Brand Awareness

Predictive analytics (PA) is one such important segment of data-driven decision making which has contributed significantly in building brand awareness. Get the best of Consumer behaviours and market tricks Financial Technology companies leverage predictive analytics to uncover and map customer segments, personalize user experience, and streamline customer engagement, thus enhancing brand visibility (Toorajipour et al.,2021)Following this relation, the study suggests:

H5: Predictive Analytics positively influences FinTech Brand Awareness.

F. Predictive Analytics and Sustainability

FinTech firms can identify and adapt their offerings to meet the needs of eco-conscious customers by incorporating Predictive Analytics into sustainable business practices. Through the most predictive models, firms may determine the effect of sustainability initiatives and perfectly align their strategies with the principles of green finance (Nayal et al., 2021)As a result, the study hypothesis is as follows:

H6: Predictive Analytics positively contributes to Sustainability in FinTech firms.

Sustainability and FinTech Brand Awareness

The ideas around sustainability also fold in a mechanism that builds FinTech brand Awareness as organizations that are sustainable are likely to attract consumers and investors who are committing to the environment. Common understanding of green finance: However, the definition scope of green finance is also considered in a broader perspective, green financial products, corporate sustainability efforts, and green investment contribute significantly to the company brand image and market positions and thus this turns out to be a 'vitally' known subject among decision-makers (Belhadi et al., 2021)From this a hypothesis can be proposed:

H7: Sustainability positively impacts FinTech Brand Awareness.

METHODOLOGY

Data Collection

The implications of this study show how sustainability can mediate the relationship between data analytics and FinTech brand awareness when developing environmentally friendly financial products. To obtain valid results, the survey-based method is applied. The study interviewed 200 employees working in FinTech companies, directly dealing with strategic management and operational activities concerning Big Data Analytics and sustainable finance. Respondents with relevant functions (e.g., data analytics, marketing, sustainability, etc.) within their organization were then targeted through purposive sampling techniques. The survey questions were constructed based on established frameworks (Ali et al., 2023)to ensure their reliability and validity(Nayal et al., 2021). The survey aimed at following discussions of the application of Big Data Analytics and the integration of sustainability as well as the development of green financial products(Fan et al., 2021).

Data Analysis

For data analysis, we adopted a variance-based approach based on Smart PLS 4, a reliable tool to consider data irregularities and non-normal data distribution in FinTech-related (Zapke, 2019). Due to the intricate relationships between Big Data Analytics, FinTech brand awareness, and sustainability, Smart PLS 4 was deemed appropriate for this study. To explore such a mediating role of sustainability in the relationship between Big Data Analytics and FinTech(Dubey et al., 2020). Unlike general SEM, Smart PLS is utilized mainly by PLS to predict correlation models, making it more suitable for the necessity of reciprocal influences and probable mediating relationships among the most important variables of green finance products and brand awareness(Guzman & Lewis, 2020). This analysis helps analyze them all closely in an approach of how green financial products impact awareness. At the same time, everything is the belief that contributes to building the brands, such as sustainability. It considers confounding variables, biases, and other important contextual information to create a rigorous examination of the interplay between these constructs(Allahham et al., 2023).

4.4 Assessment of the Measurement Model

Table 1. Measurement items and reliability.

Constructs	Items	Factor loadings	Cronbach's Alpha	C.R.	(AVE)
Customer Behavior Analytics	CBA1	0.88	0.877	0.915	0.73
	CBA2	0.86			
	CBA3	0.855			
	CBA4	0.821			
FinTech Brand Awareness	FBA1	0.841	0.822	0.88	0.648
	FBA2	0.835			
	FBA3	0.754			
	FBA4	0.787			
Market Trend Prediction	MTP1	0.819	0.889	0.919	0.694
	MTP2	0.855			

	MTP3	0.827			
	MTP4	0.868			
	MTP5	0.794			
Predictive Analytic	PA1	0.811	0.91	0.93	0.69
	PA2	0.849			
	PA3	0.826			
	PA4	0.842			
	PA5	0.832			
	PA6	0.822			
Sustainability	SU1	0.729	0.841	0.895	0.681
	SU2	0.85			
	SU3	0.876			
	SU4	0.838			

Table 1:For all constructs, the measurement model shows high reliability and validity. Cronbach's Alpha and Composite Reliability (C.R.) values are both higher than 0.7, indicating high internal consistency. All item factor loadings are above 0.7, indicating good construct validity, with sufficient convergent validity as AVE values are all above 0.5. The values of C.R. for CBA, MTP, PA, and SU showed particularly high reliability and can be seen to measure together above 0.89. The FinTech Brand Awareness (FBA) score is just below the lower boundary of the given interval of (a,b) as specified above (AVE = 0.648) but is still beneficial as it is the upper half of the given value. In summary, these findings validate the strength of the measurement model, giving evidence to its suitability and quality for testing SEM analysis.

Table 2. HTMT

	Customer Behavior Analytics	**FinTech Brand Awareness**	**Market Trend Prediction**	**Predictive Analytic**	**Sustainability**
Customer Behavior Analytics					
FinTech Brand Awareness	0.588				
Market Trend Prediction	0.798	0.703			
Predictive Analytic	0.655	0.442	0.57		
sustainability	0.558	0.448	0.584	0.527	

Table 2presentsthe HTMT analysis, which assesses discriminant validity. Each HTMT value is below the critical level of 0.85, indicating discriminant validity amongst each construct. HTMT score is a measure of the correlatedness between the two factors, and values at zero will be least correlated, and the values approaching 1 indicate a strong correlation, while a score above 0.90 shows that there is a probable multicollinearity between the factors (Heterotrait-Monotrait Ratio). The highest HTMT value (0.798) between Customer Behavior Analytics and Market Trend Prediction indicates a strong relation, which is yet acceptable. On the contrary, FinTech Brand Awareness and Predictive Analytics have lower HTMT values (0.442 and 0.448, respectively), reinforcing that there is sufficient temporary separation between these constructs. However, these findings provide evidence for the model's discriminant validity, whereby each construct measures a unique theoretical construct.

Table 3: Fornell-Larcker

	Customer Behavior Analytics	**FinTech Brand Awareness**	**Market Trend Prediction**	**Predictive Analytic**	**Sustainability**

Customer Behavior Analytics	0.854				
FinTech Brand Awareness	0.489	0.805			
Market Trend Prediction	0.71	0.579	0.833		
Predictive Analytic	0.589	0.374	0.52	0.83	
sustainability	0.481	0.382	0.509	0.464	0.825

Table 3: All values are below the critical value of 0.85, thus supporting discriminant validity as summarized in the revised HTMT analysis. The market trend prediction has the highest correlation (0.71) with customer behavior analytics, which means they have a significant but acceptable relationship. Contrasting with the correlations between constructs mentioned earlier, it is clear that FinTech Brand Awareness and FinTech Sustainability have relatively less correlation with all other constructs, reaffirming their distinct nature. Diagonal values, the square root of Average Variance Extracted (AVE), also demonstrate that each construct explains its itemswith more variance than all other constructs. The results confirm the measurement model, indicating that each construct measures a distinct feature of the study's framework.

Table 4: R2 Adjusted

Variable	**R-square**	**R-square adjusted**
FinTech Brand Awareness	0.146	0.143
Sustainability	0.322	0.314

The R^2 and R^2 Adjusted are shown in Table 4, and the R^2 means how much independent variables can explain dependent variables. For FinTec h Brand Awareness, the R^2 Adjusted value is 0.143, indicating that the model explains approximately 14.3% of the variance in FinTech Brand Awareness after controlling for the number of predictors in the model. Similarly, for the Sustainability construct, the R^2Adjusted is 0.314 (i.e., 31.4% of its variance is explained by the independent variables in the model). The superior R^2 Adjusted value obtained for Sustainability implies that more of the variance in this construct is accounted for by the predictors included in the model as opposed to FinTech Brand Awareness.

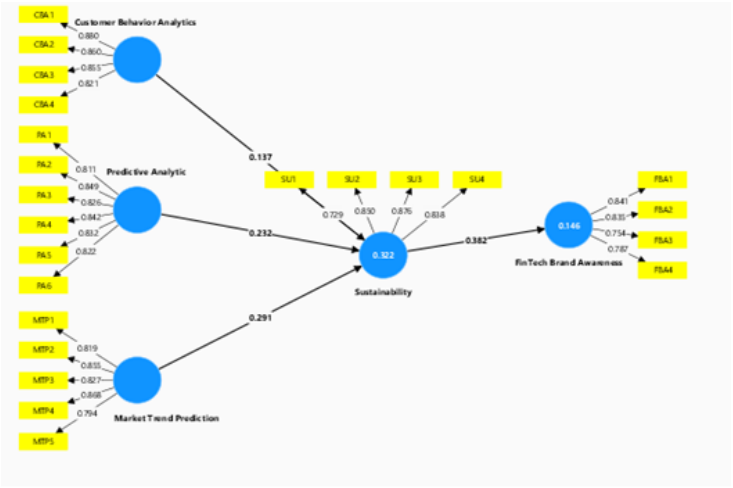

Figure 1. Measurement model

4.6 Assessment of the Measurement Model

A measurement model was verified for various constructs influencing the potential effect of Big Data Analytics on a multi-part FinTech Brand Awareness, mediated by sustainability in creating green financial products. The measurement scale was developed based on the key dimensions of Big Data Analytics, FinTech Brand Awareness, and sustainability. . We validated the measurement scales and explored their reliability through a pilot study with industry practitioners in the fields of financial technology, data analytics, and sustainability. Confirmatory factor analysis (CFA) was used to estimate construct validity using the answers of the sectoral decision-makers. As presented above, this CFA indicated that all constructs exceeded the criteria for discriminant validity and reliability and can be utilized in subsequent testing .(Jermsittiparsert & Pithuk, 2019). We conducted a Structural Equation Modelling (SEM) analysis to examine the relationships between Big Data Analytics, sustainability, and FinTech Brand Awareness after validation. Such conclusions may help toward utilizing Big Data Analytics strategically to create unavoidable brand awareness and emphasize that sustainability is the key consideration in developing green financial products (Khaled et al., 2024)

5. PATH RESULT

Specific Indirect Effects

Table 6. Hypotheses testing estimates

	Original sample	Sample mean	Standard deviation	T statistics	P values	Result
Customer Behavior Analytics -> FinTech Brand Awareness	0.052	0.056	0.035	1.496	0.135	Unsupported
Customer Behavior Analytics -> Sustainability	0.137	0.144	0.081	1.7	0.089	Unsupported
Market Trend Prediction -> FinTech Brand Awareness	0.111	0.113	0.046	2.411	0.016	Supported
Market Trend Prediction -> Sustainability	0.291	0.288	0.085	3.433	0.001	Supported
Predictive Analytic -> FinTech Brand Awareness	0.089	0.088	0.032	2.735	0.006	Supported
Predictive Analytic -> Sustainability	0.232	0.23	0.071	3.254	0.001	Supported
Sustainability -> FinTech Brand Awareness	0.382	0.387	0.086	4.436	0	Supported

Customer Behavior Analytics, Market Trend Prediction, Predictive Analytics, Sustainability and FinTech Brand Awareness:probability & Hypothesis testing results. Results show that Customer Behavior Analytics does not statistically significantly influence either FinTech Brand Awareness (β = The Hypotheses are unsound, as both (p = 0.135) or Sustainability (β = 0.137, p = 0.089). On the contrary, Market Trend Prediction has a strong positive impact (β = 0.111, p = 0.016) on FinTech Brand Awareness and (β = 0.291, p = 0.001) on Sustainability, indicating its role in developing sustainable financial strategies. Similarly, Predictive Analytics positively influences FinTech Brand Awareness (β = 0.089, p = 0.006) and Sustainability (β = 0.232, p = 0.001), underscoring its importance in improving data-informed decision making. In addition, Sustainability has an influential impact on FinTech Brand Awareness (β = 0.382, p < 0.001), further validating its mediating path in green financial product development. These findings indicate that, despite Customer Behavior Analytics not directly associated with brand awareness or sustainability, Market Trend Prediction and Predictive Analytics are fundamental in obtaining sustainable growth for FinTech brands.

A. DISCUSSION AND CONCLUSIONS

This means that Sustainability is a critical mediator between the FinTech Brand Awareness and the development of green financial products. Market Trend Prediction and Predictive Analytics are also ranked premier contributors to sustainability and FinTech brand awareness, reflecting their growing role in data-driven financial strategies(Zhai & Shi, 2020) . However, Customer Behavior Analytics does not seem to have a direct impact: its association with Business Performance may be conditional on other implementations, strategies, or complementary technologies. Such results further underpin the need for FinTech firms to embed sustainability-led analytics capabilities in their operating models, ultimately ensuring stronger brand positioning and driving consumer trust in green finance(Alshawabkeh et al., 2024). To summarize, the study considers the intersection of data analytics, sustainability, and branding, asserting with various models and equations that green finance cannot be fully realized unless a company's data capabilities are used to inform it and corporate communication is utilized for branding.

Theoretical Implications

This study provides theoretical implications for the relationship among Big Data Analytics, FinTech Brand Awareness and Sustainability of green financial products(Abou Kamar et al.,2023). It contributes to the literature by providing evidence of the mediating role of analytical tools such as Market Trend Prediction and Predictive Analytics in enhancing brand awareness when implemented with sustainability initiatives. These results align with Resource-Based View (RBV) theory, suggesting that organizations that leverage data analytics as a strategic asset can achieve a competitive advantage with attendant sustainability in financial innovation. Also, this study confirms the hypothesis that sustainability acts as a bridge between technology and the consumer, highlighting the relevance of integrating environmental issues into data-oriented financial products(Liu et al 2018)..

Managerial Implications

The study provides practical suggestions to FinTech industry leaders about improving the optimization of data analytics for brand enhancement while committing to sustainability(Brandon-Jones et al., 2014). Market Trend Prediction and Predictive Analytics should be a priority for Managers to help gain insights into consumer behavior, reporting also on market shifts and the development of green financial products in line with regulatory requirements and consumer demand(Liu et al., 2018). Moreover, sustainability must no longer be regarded as a standalone initiative; it should be embedded in every aspect of data-driven decision-making(Belhadi, Mani, et al., 2021). . This would reflect that the firm has been making investments toward sustainability-oriented analytical models, thus increasing its brand credibility and would play as a magnet for environmentally-conscious customers. The findings highlight the critical need to integrate sustainability into data analytics frameworks to optimize financial and reputational returns.

Limitations of Study

While the study provides valuable contributions, it is not free from limitations. The focus was narrowed down to FinTech firms actively involved in sustainability projects, which might limit the generalizability of the results to other types of firms that may not have similar operational priorities(Al-Banna et al.,2023). The survey-based data is from employees, who might have subjective biases when measuring the impact of Big Data Analytics on brand awareness. Moreover, although the article highlights the mediating role of sustainability, the author did not investigate other possible mediators in this relationship, like regulations, policies, or consumer trust, which can further elucidate the relationship. Research Implications This research paves the way for further studies in the field of Big Data Analytics (BDA) and its effect on FinTech branding by broadening the scope through future research engagement with more financial institutions and the inclusion of intervening as well as moderating variables that impact BDA's effect on FinTech branding.

CONCLUSIONS

This research extends existing research concerning the contribution of Big Data Analytics to FinTech Brand Awareness, focusing on Sustainability as a mediating factor in the production of green financial

assets. The results show that although Market Trend Prediction and Predictive Analytics seem to improve the brand's awareness level greatly, the effect of Customer Behavior Analytics is not yet conclusive, suggesting further investigation is necessary. Incorporating sustainability into data-driven finance strategies enhances brand positioning while meeting the increasing worldwide demand for environmentally friendly financial solutions. The study highlights the relevance of sustainability as a 'bridge' linking technological innovations and consumer engagement and gives theoretical and managerial perspectives on the emerging dynamics within the FinTech branding landscape.

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