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The striking mechanisms of innovation theories to create collaborative competitive advantage opportunities in global digital marketing

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C H R O N I C L E

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A B S T R A C T

This study investigates the ways in which collaboration may provide a competitive advantage in global marketing through focused strategy, differentiation, and cost leadership. The study uses Partial Least Squares Structural Equation Modelling (PLS-SEM) to analyze data and present a comparative analysis of separate and combined strategic approaches. The result of the study implies that differentiation is the main factor influencing the variation in collaborative competitive advantage, which accounts for the largest percentage of explained variance ($R^2 = 0.729$). Whereas the combined model also shows a high level of explanatory ability ($R^2 = 0.693$). The path coefficient shows that differentiation, focused strategy, and cost leadership have a positive impact on competitive advantage. The integrated model also shows significant indirect effects, highlighting the benefits of combining several strategies. These results suggest that in order to optimize resource allocation and enhance market positioning, firms should adopt a comprehensive approach that incorporates many techniques. This study contributes to the existing research in strategic management by emphasizing the importance of a cohesive strategy in sustaining a competitive advantage in the fast-evolving digital marketing field.

1. Introduction

Technology has developed rapidly in the past few decades (Ahmed et al., 2019). These advances in technology have led to important changes in society, because they affect people's lives and alter the way people think, learn, and communicate (Mbaidin, Alomari, et al., 2024b). Technological innovations are developments in technology that have an impact on how an organization operates, such as the introduction of new or improved technologies (Singhal et al., 2022). Technological developments are essential to sustaining nations' and firms' competitive advantages (Coccia, 2017a, 2017b, 2019a, 2019b). Organizations generate new ideas through innovation, which is then transformed into unique goods, services, or processes (Looy, 2021; Yildirim et al., 2022). The implementation of these innovative ideas, such as new programs, technologies, organizational structures, new services or products, is with the aim of promoting development and performance, maintaining the sustainability of the organization, and achieve organizational success (Gachanja et al., 2020; Hoai et al., 2022; Looy, 2021). In both foreign and domestic markets, innovation capacity is essential for improving the efficiency and competitive advantages of operations, marketing, human resources, and networking as well as product performance (Anning-Dorson, 2018). Firms that are regularly involved in product design and innovation will be able to generate new ideas for products, processes, and marketing strategies (Sulistyo & Ayuni, 2019). Most of the organizations that want to succeed and lead their sector allocate a significant number of resources to innovative ideas, which is primarily due to research and development (Miranda et al., 2020). Companies who are always looking for new and creative ways to achieve sustainable design and quality will be the first to benefit (Faulks et al., 2021). An increase in the number of organizations' sales and revenue are all influenced by the success of a new product, which drives growth for the firm. Innovation capabilities in design, product, process, marketing, and service will consequently promote high performance and long-term competitive advantages. Thus, with strong innovation

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capacity, organization's performance will significantly improve (AlTaweel & Al-Hawary, 2021). According to AlTaweel and Al-Hawary (2021) firms have focused on improving their organizational performance since the business environment has changed and competition has increased. Companies must adapt to these developments and strengthen their capacity for innovation if they are to maintain a lasting competitive advantage and satisfy consumer needs (AlTaweel & Al-Hawary, 2021; Ferreira et al., 2020). Product innovations, administration, and marketing tools are all part of marketing ability, which is the creative method used to address market demands (BAMBANG et al., 2021). Businesses are now creating departments that are solely focused on digital marketing and digital strategy. More than ever, digital marketing needs to be an essential element of all marketing operations (Kingsnorth, 2022). There are two important factors that determine the importance of this study. Firstly, it is considered as a unique and a pioneering study, conducted on the striking mechanisms of innovation theories to build collaborative competitive advantage prospects in global digital marketing. Secondly, this study bridges a gap in the literature as well as provides recommendations for further research in the field of digital marketing, due to the few availabilities of existing research on the interaction between the striking mechanisms of innovation theories and how it might assist in creating collaborative competitive advantages. The major objective of this study is to summarize the results of the research into three main queries:

RQ1: What are the striking mechanisms of innovation theories?

RQ2: How can the striking mechanisms of innovation theories create collaborative competitive advantage opportunities?

RQ3: How can the striking mechanisms of innovation theories create collaborative competitive advantage opportunities in global digital marketing?

The study was structured as follows: Section 2 examines the innovative theories of striking mechanisms and their potential for cooperative competitive advantage; Section 3 discusses the research methodology; Section 4 presents the results; Section 5 discusses the results; and Section 6 summarizes the conclusions.

2. Theoretical Framework and Literature Review

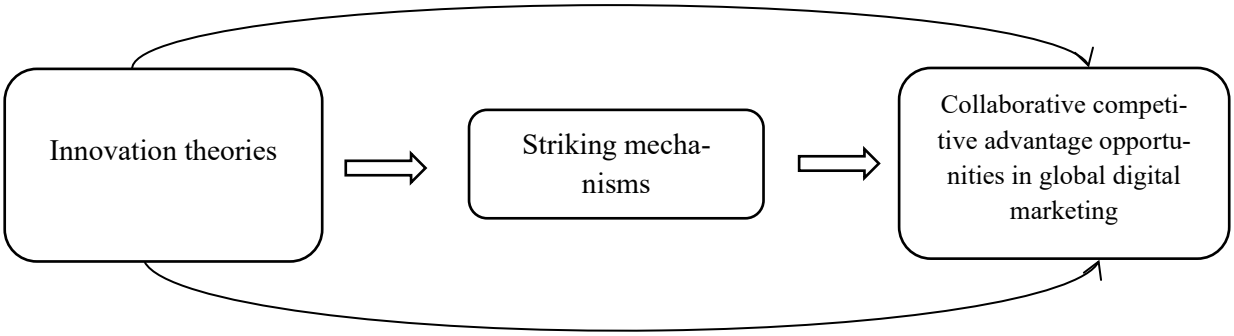

Fig. 1. Theoretical Research Framework

2.1 Dissecting the striking mechanisms of innovation theories to create collaborative competitive advantage opportunities

2.1.1 Background of innovation theories

In a market that is competitive, being open is not a free or clear resource; rather, it may be costly and requires a certain attitude of what a firm should be open to (Felin & Zenger, 2020). Innovation theories are conceptual frameworks and models that aid in explaining, directing, and projecting the processes and outcomes connected to innovation (Ghazinoory et al., 2023). These theories help in comprehending the process of innovation, identifying the influential factors, and development of managing strategies and promoting the process by individuals, companies, and policymakers (Magistretti et al., 2021). Academicians and researchers have created several known innovation theories. Table 1 below shows a summary of some of the most important theories of innovation in addition with an explanation of each.

Table 1
Major theories of innovation

Theories	Description
Diffusion of Innovations Theory	DIT is a detailed sociological and psychological theory that aims to predict the decision-making process involved in people's acceptance of new innovations by analysing the structure of new inventions and identifying adoption trends (Min et al., 2021). DIT presents five characteristics as a prerequisite for any adoption: The following are the factors that influence the decision for adoption: 1) Relative advantages (such as perceived convenience or financial gains). 2) Complexity (relatively easy to use or try). 3) Compatibility (adapting in with the needs, values, and prior experiences of potential adopters). 4) Observability (implication assessment). and 5) Trialability (tested before adoption) (Pateli et al., 2020; Setiyani et al., 2022, p. 1202).

Table 1
Major theories of innovation (Continued)

Theories	Description
Open Innovation	According to Bogers et al. (2018), the term "open innovation" implies an idea that includes the challenges, customs, and practices connected to innovation processes. By increasing the likelihood of knowledge complementarities, open innovation techniques can lead to both faster and higher-quality innovation as well as improved company efficiency (David B. Audretsch & Belitski, 2020). Since start-ups, established companies, and small and big enterprises all promote open collaboration, expanding and strengthening the range of activities with innovative partners (David Bruce Audretsch et al., 2021; Roper et al., 2017) it has emerged as a "key innovation strategy" (Hsieh et al., 2018; Kobarg et al., 2019).
Disruptive Innovation Theory	Harvard management professor Clayton Christensen first used the phrase 'disruptive technology' in his 1997 book *"Innovators Dilemma"*. (Strömberg & Thorman, 2019; Terry, 2020). The term disruptive technology refers to low-level technologies that firstly go unnoticed, but they eventually get improved or create a whole new technology over time (Terry, 2020). Disruptive technology can create new markets for new products. It can give access to technology to low-income markets.
Linear Model of Innovation	According to conventional ideas, innovation is a linear process and has distinct phases. According to the linear model of innovation, new scientific research serves as the stimulant for innovation, which then proceeds through the phases of production, product development, and marketing to successfully introduce new products into the market (Oyesola et al., 2018). Public policymakers' general opinions have been based on the linear model of innovation. Although research, product sales, development, manufacturing, and marketing activities are recognized by the model as being within these categories, these processes are viewed more as an integral part of the innovation channel than as major obstacles to corporate success. (Oyesola et al., 2018).
Technology acceptance model (TAM)	The Technology Acceptance Model (TAM) is the most commonly used hypothesis for explaining a person's adoption of information technology. Information systems user acceptability is understood through TAM, which also assesses user attitude and the significance of perceived utility (PU) and ease of use (PEOU) (Alomari, 2022).

2.1.2 Collaborative Competitive Advantage

Since the purpose of competition activities is to provide firms with new methods to succeed in their contexts of serious competition, researchers have committed an extensive period of study to understanding the relationship between coopetition and corporate performance (Felzensztein et al., 2018; Gnyawali & Charleton, 2018; Tidström et al., 2018). Lee and Yoo (2021) state that many businesses view achieving consumer expectations and strengthening their competitive advantages as essential goals. Because of factors like globalization, technological advancement, shorter product life cycles, and shifting consumer demands, the business environment is changing quickly nowadays, making it challenging to forecast what the future holds (Amini & Rahmani, 2023). Because the modern business environment is so dynamic, it is imperative that all firms develop long-lasting competitive advantages that withstand competition (Atsou et al., 2021). Given the potential for long-term competitive advantage creation and the fact that the final goods may act as the basis for product differentiation, product design seems to be especially significant in that context (Atsou et al., 2021). A firm needs sustainable and unique competitive advantages to stay ahead of the competition. As a result, businesses must use creative tactics to increase consumer value through the creation of new products and services as well as the enhancement of current ones to stay sustainable (Molina-Collado et al., 2022).

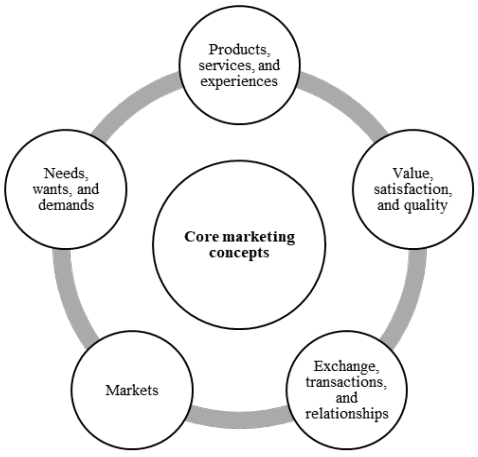

Fig. 2. Core marketing concepts (Junusi, 2020; Purchase & Volery, 2020; Zeithaml et al., 2020)

2.1.3 The Striking Mechanisms of Innovation Theories to Create Collaborative Competitive Advantage Opportunities

It is often acknowledged that innovation has a major influence on economic growth and gaining a sustaining competitive advantage (Farida & Setiawan, 2022; Litsareva, 2017). The dynamic landscape of innovation theories encompasses striking

mechanisms that offer collaborative advantage prospects for organizations. These mechanisms depend on the organizations' capacity and ability to support interdependent ecosystems, adopt open innovation, and capitalize on new technology by adopting the latest innovations (Mbaidin, Sbaee, et al., 2024; Talwar et al., 2020). By forming solid alliances and working together, organizations may get access to a multitude of resources, knowledge, and expertise that can foster innovation through joint ventures (Adigwe et al., 2023). By encouraging the sharing of the concept with all stakeholders, such as everlasting stakeholders, the use of innovation theories like open innovation frameworks may help create an atmosphere that emphasizes continuous learning and adaptability (Casanove, 2020; McPhillips et al., 2022). Integrating modern technologies, such as blockchain technology and artificial intelligence (AI), gives organizations a competitive advantage over their rivals through partnerships as it fosters internal operations and opens new avenues for cooperation (Rana et al., 2022; Z. Wang et al., 2022).

2.2 Digital marketing and collaborative competitive advantage opportunities

An increasing number of companies are creating digital marketing divisions that function independently of marketing departments, as well as departments devoted to digital marketing. It is more important than ever that digital marketing be an essential component of every marketing campaign (Kingsnorth, 2022). When a marketing leadership team plans for the next couple of years, the first question they should ask is, "How is our firm's business portfolio changing in search of higher value? and how can marketing support the success of that change?" This is one of the business innovations that marketing is asked to support according to (Storbacka & Moser, 2020). Digital marketing is typically changing the goals that businesses are trying to achieve. Businesses can create new ideas or business models that might be impacted significantly by digital marketing. As a result, marketing may begin to promote products that have never been promoted before (Storbacka & Moser, 2020). Coopetition is an essential business-to-business marketing tactic (Leite et al., 2018). It consists of competitive and cooperative elements that helps organizations in gaining access to new opportunities, resources, and skills that they couldn't achieve under individualistic business models, which do not foster coopetition (Arslan, 2018; Velu, 2019). According to Crick (2018, p. 2) "business to-business marketing scholars have predominantly highlighted that collaborating with competitors (e.g., sharing resources and capabilities) leads to higher levels of company performance, with minimal considerations towards a potential diminishing returns effect". Pascual-Fernández et al. (2021) highlighted that to gain a sustainable competitive advantage (SCA) it requires developing business innovation capability (IC). Na et al. (2019), highlights the role that marketing innovation (MI) plays in facilitating sustainable competitive advantage (SCA). Marketing innovation (MI), according to Hussain et al. (2020), is the application of new and distinctive marketing techniques to produce a long-lasting competitive advantage (SCA). The term marketing innovation refers to a process of enhancing business performance and competitiveness by improving marketing practices and innovation (Na et al., 2019). The process involves changing product design or packaging, promotion, and pricing in a substantial manner that is different from what it was before (Hussain et al., 2020). The marketing industry depends on creative and innovative approaches of devising, designing, developing, and implementing products' marketing strategies, policies, schemes, and methods (Javanmard & Hasani, 2017). According to Persaud et al. (2021), many marketing developments are the result of an increase in innovations such as entering new markets and applying new sales strategies.

2.3 The Striking Mechanisms of Innovation Theories to Create Collaborative Competitive Advantage Opportunities in Global Digital Marketing

Storbacka and Moser (2020) stated that Digitalization affects all aspects of a business model, from value creation for customers to value capture, and it has the power to completely transform an organization. Also, Storbacka and Moser (2020) indicated that firms are changing their business models to capitalize on technology improvements, which is causing a rapid change of their operations. This presents new opportunities for "out-of-the-box" development of new instruments and methods that successfully challenge deeply embedded functional patterns of thinking. In the fast-paced world of international digital marketing, incorporating striking mechanisms of innovation theories is a spark for igniting possibilities for cooperative competitive advantage. Forming strategic partnerships with businesses and influencers, as well as investigating cross-industry collaborations to increase reach and pool resources, are essential components of global digital marketing (Storbacka & Moser, 2020; Wang, 2020). By leveraging and adopting various striking mechanisms of innovation theories, competitors in the market can form and strengthen collaborative alliances, which can result in chances for collaborative competitive advantage in this industry. By applying various theories of innovation to digital marketing strategies, businesses can improve their internal operations, processes, and procedures related to this field. This will help them respond more quickly to changes in the market and customer feedback, which will increase their opportunities for a collaborative competitive advantage (Akter et al., 2022; Muninger et al., 2019). The third striking mechanism is improving key performance indicators (KPIs). Using different concepts of innovation theories in global digital marketing can improve the key performance indicators which are important in every organization to monitor and achieve excellent performance among competitors in the market (Kosasih et al., 2023; Mbaidin, Alomari, et al., 2024a). KPIs are not the same between companies and between industries, depending on overall long-term performance criteria, which significantly aid in determining a company's strategic, tactical, and operational achievements of each organizational stage, especially compared to businesses within the same sector (Kingsnorth, 2022). Consequently, it can create collaborative competitive advantage opportunities in global digital marketing. The last striking mechanism is continuous integration of emerging technologies. Adapting different theories of innovation using the new

technologies in the global digital marketing can promote industries that has a very high competition environment (Orlova, 2019), for example using Internet of Things (IoT) which is a global environment where everything and everyone is digitally connected to everything and everyone else (Perwej et al., 2019), or involves using digital marketing tools such as websites, social, media, mobile ads and apps, online video, email, blogs, and other digital platforms to engage consumers anywhere, anytime, via their computers, smartphones, tablets, TVs, and other digital devices that can lead marketers set up company and brand websites that provide information and promote the company's products (AlLouzi & Alomari, 2023; Opresnik, 2022). As a result, incorporating these striking mechanisms of innovation theories in strategies and processes of digital marketing can drive and change companies dramatically and create collaborative competitive advantage opportunities in the global marketplace. Companies may differentiate themselves in the most competitive digital world by being able to adapt, innovate, lead in terms of cost, and have a focused strategy by utilizing these tactics and approaches.

2.4 Development Hypotheses and Model of Study

In this section, the authors generate and identify the hypothesis of the research. These hypotheses will give the authors a comprehensive understanding that will aid them in examining and studying how the impacts of Differentiation, Focused Strategy, and Cost leadership can generate, and achieve opportunities that build a collaborative competitive advantage in the global digital marketing field.

2.4.1 Differentiation Model

This study encompasses four models. Each model performs a different function that represents this study. The first model of the study is the Differentiation Model illustrated in Fig. 3. The differentiation strategy comprises creating a special value proposition that distinguishes a company from its rivals in the market.

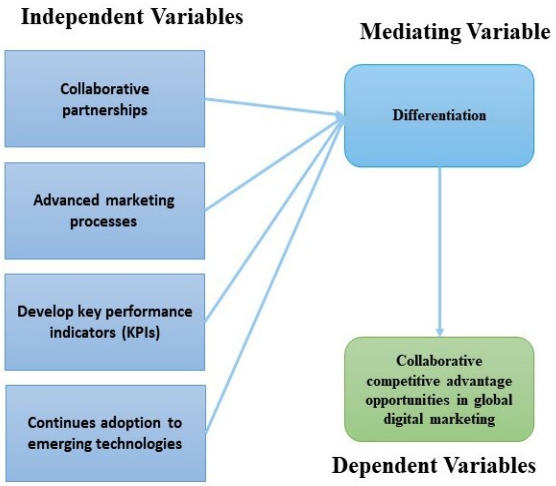

Fig. 3. Differentiation Model

H_1: *Collaborative partnerships positively influence differentiation strategy.*

H_2: *Advanced marketing processes positively influence differentiation strategy.*

H_3: *Developing KPIs positively influences differentiation strategy.*

H_4: *Continual adoption of emerging technologies positively influences differentiation strategy.*

H_5: *Differentiation strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_6: *Differentiation strategy mediates the relationship between collaborative partnerships and collaborative competitive advantage in global digital marketing.*

H_7: *Differentiation strategy mediates the relationship between advanced marketing processes and collaborative competitive advantage in global digital marketing.*

H_8: *Differentiation strategy mediates the relationship between developing KPIs and collaborative competitive advantage in global digital marketing.*

H_9: *Differentiation strategy mediates the relationship between continual adoption of emerging technologies and collaborative competitive advantage in global digital marketing.*

2.4.2 Focused Strategy Model

The second model for this study is the Focused Strategy Model which is illustrated in Figure 4. This strategy enables organizations to focus on addressing categories of the market. Using this approach can assist organizations in adjusting their marketing initiatives to better suit the demands of these market segments.

H_{10}: *Collaborative partnerships positively influence focused strategy.*

H_{11}: *Advanced marketing processes positively influence focused strategy.*

H_{12}: *Developing KPIs positively influences focused strategy.*

H_{13}: *Continual adoption of emerging technologies positively influences focused strategy.*

H_{14}: *Focused strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_{15}: *Focused strategy mediates the relationship between collaborative partnerships and collaborative competitive advantage in global digital marketing.*

H_{16}: *Focused strategy mediates the relationship between advanced marketing processes and collaborative competitive advantage in global digital marketing.*

H_{17}: *Focused strategy mediates the relationship between developing KPIs and collaborative competitive advantage in global digital marketing.*

H_{18}: *Focused strategy mediates the relationship between continual adoption of emerging technologies and collaborative competitive advantage in global digital marketing.*

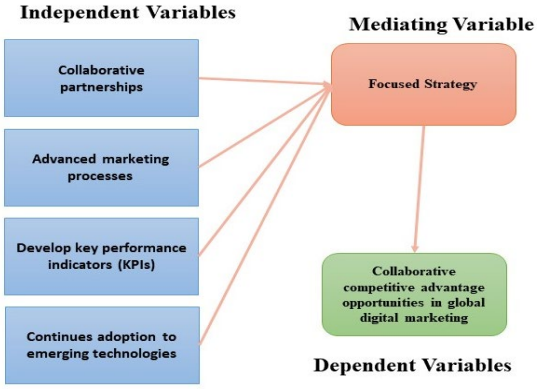

Fig. 4. Focused Strategy Model

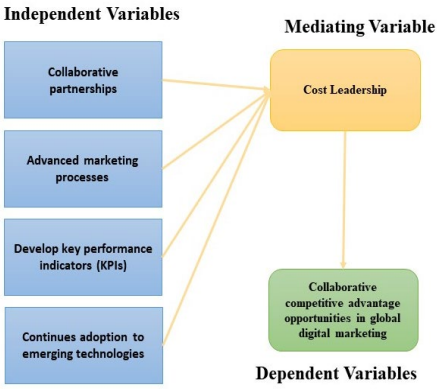

Fig. 5. Cost Leadership Model

2.4.3 Cost Leadership Model

The Cost Leadership Model shown in Fig. 5 is the third model for this study. This business approach plays a critical role for organizations in increasing their market share and promoting their competitive advantage as it allows them to become the industry's lowest-cost producer by offering lower prices to customers.

H_{19}: *Collaborative partnerships positively influence cost leadership strategy.*

H_{20}: *Advanced marketing processes positively influence cost leadership strategy.*

H_{21}: *Developing KPIs positively influence cost leadership strategy.*

H_{22}: *Continual adoption of emerging technologies positively influences cost leadership strategy.*

H_{23}: *Cost leadership strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_{24}: *Cost leadership strategy mediates the relationship between collaborative partnerships and collaborative competitive advantage in global digital marketing.*

H_{25}: *Cost leadership strategy mediates the relationship between advanced marketing processes and collaborative competitive advantage in global digital marketing.*

H_{26}: *Cost leadership strategy mediates the relationship between developing KPIs and collaborative competitive advantage in global digital marketing.*

H_{27}: *Cost leadership strategy mediates the relationship between continual adoption of emerging technologies and collaborative competitive advantage in global digital marketing.*

2.4.4 Combined Model

The fourth model of the study is the Combined Model illustrated in Fig. 6. This Combined Model integrates all the previous three models (Differentiation Model, Focused Strategy Model, and Cost Leadership Model). Each of these models individually can grant and give a competitive advantage to the organization, integrating them into one model could bring synergistic benefits and outcomes. This combination of the three models (Differentiation Model, Focused Strategy Model, and Cost Leadership Model) has the potential to powerfully increase the competitive advantage in the dynamic field of global digital marketing.

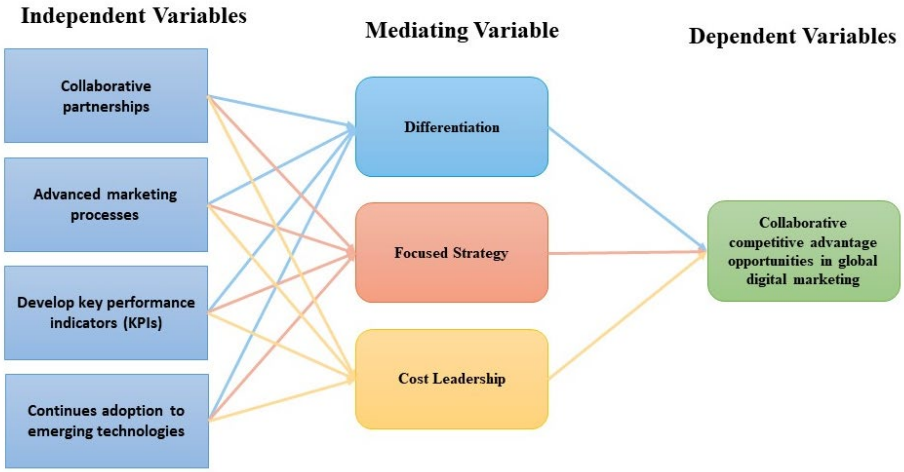

Fig. 6. Combined Model

H_{28}: *Differentiation strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_{29}: *Focused strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_{30}: *Cost leadership strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.*

H_{31}: *The combined use of differentiation, focused strategy, and cost leadership has a stronger positive effect on achieving collaborative competitive advantage in global digital marketing than the individual use of each strategy.*

3. Methodology

This study analyzes how the striking mechanisms of innovation theories can generate collaborative competitive advantage opportunities in global digital marketing. The goal of this study is to investigate the impact of the effectiveness of three marketing strategies (Differentiation, Focused Strategy, and Cost Leadership) both separately and combined. The study consists of four models, examining the first three models separately and investigating the combined impact of all of them in the fourth model. The methodology used in this study including the procedure of collecting the data and choosing the sample, the nature of the sample, the method of measuring and choosing the variables of the study, and the analytical tools utilized for this study are all provided in a detailed explanation in this section.

3.1 Research design

The research was designed using several techniques. Previous research was initially reviewed in order to develop the theoretical framework. The research focuses on a comprehensive perspective encompassing three tactics: differentiation, focused strategy, and cost leadership. Using various statistical techniques to examine four models and develop and examine the hypothesis for this study. The first three models focus on the effects of the three strategies separately, while the fourth model looks at how the three techniques work together to increase Collaborative Competitive Advantage in the field of international digital marketing. Using different statistical methods and the structural model assessment can aid in ensuring the reliability and validity of the research.

3.2 Data collection

An online questionnaire was conducted with closed-ended questions to collect the data needed for this study. The questionnaire was distributed via email and official social media platforms. The targeted participants were professionals working in various companies in the field of digital marketing such as marketing managers, digital marketing experts, and chief marketing

officers. Different organizations from a diverse set of industries were selected to participate in the questionnaire so that the results of the research could ascertain the findings' applicability in a wider context.

3.3 Procedure and Sampling

The sample size provided for the study is sufficient to draw and generate beneficial and applicable conclusions that may be used in a wide range of industries in the field of digital marketing. The total number of respondents is 451, and this number is broken down into four categories, 451 total respondents for the Combined Model, 286 total respondents for the Cost Leadership Model, 299 total respondents for the Differentiation Model, and 210 total respondents for the Focused Strategy Model. As stated by (Hair et al., 2014) it is recommended that having a minimum sample size of 10 times the maximum number of arrows pointing at a latent variable in the structural model, and based on this, the sample sizes used in this study meet or exceed this minimum requirement and large enough to ensure that medium to large effects can be detected with adequate statistical power, thereby contributing to the assurance of sufficient reliability, validity, and robustness of the study's findings.

3.4 Survey design

The purpose of conducting the survey instrument was to gather data about the use of the three marketing strategies (Differentiation, Focused Strategy, and Cost Leadership) and how they can impact and influence gaining a collaborative competitive advantage in the realm of digital marketing. To measure each variable included in the model of the study, the questionnaire was designed using a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The questionnaire was divided into multiple sections:

- Independent Variables: Inquiries pertaining to the utilization of cooperative alliances, sophisticated marketing procedures, establishment of crucial performance metrics, and integration of rising technology.
- Mediating Variables: This includes different sections for the strategies of Differentiation, Focused Strategy, and Cost Leadership.
- Dependent Variable: Questions evaluating the potential advantages of collaboration in global digital marketing from a competitive standpoint.5

3.5 Variable Operationalization

3.5.1 Independent Variables

- Collaborative Partnerships (CP1, CP2, CP3)
- Advanced Marketing Processes (AMP1, AMP2, AMP3)
- Developing Key Performance Indicators (DKP1, DKP2, DKP3)
- Continual Adoption of Emerging Technologies (CAE1, CAE2, CAE3)

3.5.2 Mediating Variables

- Differentiation (Diff1, Diff2, Diff3)
- Focused Strategy (FS1, FS2, FS3)
- Cost Leadership (CL1, CL2, CL3)

3.5.3 Dependent Variable

- Collaborative Competitive Advantage (CCA1, CCA2, CCA3)

3.6 Ethical Considerations and Data Preparation

Ethical considerations are a crucial part of any research while collecting data from participants. For this study, the participants before starting the survey were informed about their voluntary participation and they were asked to quit at any time without any negative consequences or inducements to encourage participation. Furthermore, participants were informed about the confidentiality and anonymity of their contribution to the survey and that their data would only be collected, processed, and utilized for research purposes. Before processing the data, a deep examination goes through to verify its consistency, coherence, and integrity. Furthermore, any missing data was replaced with a neutral value of 3, and rows containing incomplete

data for the models of the study (Differentiation Model, Focused Strategy Model, and Cost Leadership Model) were eliminated.

4. Data Analysis

The main goal of this study is to investigate how the striking mechanisms of innovation theories can create collaborative competitive advantage opportunities in the realm of digital marketing. The data that was generated from the survey conducted for the study is 1246 respondents. By the means of utilizing Partial Least Squares Structural Equation Modelling (PLS-SEM) and with the aid of SmartPLS software (V4.0.9) the data and the variables of the study can be analyzed. The PLS-SEM analysis supports providing insights into both individual and combined impacts of the three strategies (Differentiation, Focused Strategy, and Cost leadership) on creating a collaborative competitive advantage. The procedure of analytics is comprised of four stages. The first stage is for the Differentiation Model that consists of the variables that are related to Differentiation and the dependent variable. The second stage is for the model of Focused strategy, it involves the variables related to Focused Strategy and the dependent variables. The third stage is for the Cost Leadership Model which encompasses variables relating to Cost Leadership and the dependent variables. The final stage contains all the variables of independent, mediating, and dependent. Measurement Model Assessment and Structural Model Assessment are being utilized to assess and evaluate each of these variables and derive the key research findings. Utilizing these approaches can assist in ensuring the validity of the research by giving a contrast between theoretical concepts and empirical data by effectively, efficiently, and accurately analyzing the correlations between different variables of the model of the study.

4.1 Differentiation Model

In this section the analysis results of the first model of the study which is the Differentiation Model are provided using Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis. This section aims to make an analysis of the individual impact of the Differentiation strategy for two reasons. Firstly, to understand how this strategy impacts Collaborative Competitive Advantage in global digital marketing. Secondly, how differentiation strategy can affect the independent variables (Advanced Marketing Processes, Developing Key Performance Indicators (KPIs), and Continuous Adoption of Emerging Technologies).

4.1.1 Measurement and Structural Model Assessment

Table 2
Differentiation Model PLS-SEM Analysis

Observed	Constructs	Loadings	VIF	C alpha	AVE	R^2
CP1	Collaborative partnerships	0.874	2.271	0.874	0.798	
CP2		0.907	2.305			
CP3		0.898	2.503			
AMP1	Advanced marketing processes	0.879	2.271	0.861	0.781	
AMP2		0.868	2.305			
AMP3		0.903	2.503			
DKP1	Develop (KPIs)	0.898	2.378	0.854	0.770	
DKP2		0.903	2.060			
DKP3		0.829	2.001			
CAE1	Continues adoption to emerging technologies	0.853	1.753	0.802	0.716	
CAE2		0.852	1.751			
CAE3		0.833	1.665			
Diff1	Differentiation	0.803	1.501	0.737	0.656	0.777
Diff2		0.866	1.663			
Diff3		0.757	1.356			
CCA1	Collaborative competitive advantage	0.839	1.677	0.769	0.684	0.729
CCA2		0.769	1.411			
CCA3		0.870	1.793			

Table 2 above illustrates the analysis of the Differentiation Model using PLS-SEM, the table shows the loadings, variance inflation factors (VIF), Cronbach's alpha (C alpha), Average Variance Extracted (AVE), and R-squared (R^2) values of the observed constructs. Values that have loading above 0.7 indicate that there is a significant correlation between the items and the corresponding constructs. Constructs with a value of VIF less than 5 show that the model does not address multicollinearity. The values of Cronbach's alpha that are above 0.7 imply that all constructions have strong consistency and dependability. Each of the constructs that has a value greater than 0.5 of Average Variance Extracted (AVE) indicates that the constructions represent a substantial portion of the variance. For the Differentiation R-squared (R^2), the value of the coefficient of 0.777 indicates that 77.7% of the variance in Differentiation is attributed to the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies). For the Collaborative Competitive Advantage R-squared (R^2), Differentiation explains 72.9% of the variance in Collaborative Competitive Advantage (CCA), which is counted at 0.729. The analysis in Table 2 of the Differentiation model illustrates that all

the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) have a significant influence on the Differentiation strategy. Using the metrics of reliability and validity and the strong values of R-squared analysis demonstrate the significance of the model's excellent explanatory power and the robustness of the constructs. Based on these analyses and metrics used, the results support the validation of the hypothesized theories of the study and provide valuable and insightful information into the strategic factors demonstrated in the Differentiation Model that drive collaborative competitive advantage in the global digital marketing field.

4.1.2 Differentiation Model Path Coefficients Analysis

This section aims to look and comprehend at how the Differentiation strategy mediates the relationship between the variables and the Collaborative Competitive Advantage by using the method of Partial Least Squares Structural Equation Modeling (PLS-SEM) that allows the estimation of complex cause-effect relationships in the Differentiation Model's path coefficients analysis. To achieve an understanding of these relationships, the analysis examines the effects of direct and indirect variables of Collaborative Partnerships, Advanced Marketing processes, Developing Key Performance Indicators (KPIs), and Continuous Adoption of Emerging Technologies on Differentiation.

Direct effects of differentiation

H_1: The path from Collaborative Partnerships to Differentiation has a coefficient of 0.099, a T statistic of 3.256, and a P value of 0.001, indicating a significant positive effect.

H_2: The path from Advanced Marketing Processes to Differentiation has a coefficient of 0.491, a T statistic of 15.752, and a P value of 0.000, indicating a strong positive effect.

H_3: The path from Developing KPIs to Differentiation has a coefficient of 0.337, a T statistic of 11.178, and a P value of 0.000, indicating a strong positive effect.

H_4: The path from Continual Adoption of Emerging Technologies to Differentiation has a coefficient of 0.606, a T statistic of 19.459, and a P value of 0.000, indicating a strong positive effect.

Direct Effects on Collaborative Competitive Advantage

H_5: The path from Differentiation to Collaborative Competitive Advantage has a coefficient of 0.854, a T statistic of 60.246, and a P value of 0.000, indicating a very strong positive effect.

The paths from Collaborative Partnerships (0.085), Advanced Marketing Processes (0.419), Developing KPIs (0.288), and Continual Adoption of Emerging Technologies (0.518) to Collaborative Competitive Advantage are all significant, indicating that these factors also directly influence competitive advantage.

Indirect Effects (Mediating Effects)

H_6: Differentiation mediates the relationship between Collaborative Partnerships and Collaborative Competitive Advantage with a coefficient of 0.085, a T statistic of 3.250, and a P value of 0.001.

H_7: Differentiation mediates the relationship between Advanced Marketing Processes and Collaborative Competitive Advantage with a coefficient of 0.419, a T statistic of 15.425, and a P value of 0.000.

H_8: Differentiation mediates the relationship between Developing KPIs and Collaborative Competitive Advantage with a coefficient of 0.288, a T statistic of 10.891, and a P value of 0.000.

H_9: Differentiation mediates the relationship between Continual Adoption of Emerging Technologies and Collaborative Competitive Advantage with a coefficient of 0.518, a T statistic of 18.988, and a P value of 0.000.

Based on the analysis results, the hypothesis suggested for the Differentiation Model are highly supported. The mediating variable which is differentiation is greatly influenced by the four independent variables collaborative Partnerships, Advanced Marketing Processes, Developing KPIs, and Continuous Adoption of Emerging Technologies. Also, these variables have a great influence on enhancing Collaborative Competitive Advantage. The correlation between the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) and the dependent variables (Collaborative Competitive Advantage) are also greatly influenced by the mediating variables (Differentiation), thus, indicating the crucial part of Differentiation in establishing competitive advantage opportunities in the global digital marketing.

Table 3
Differentiation Model Path Coefficients Analysis

H	Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H_1	Collaborative partnerships → Differentiation	0.099	0.100	0.031	3.256	0.001
H_2	Advanced marketing processes → Differentiation	0.491	0.490	0.031	15.752	0.000
H_3	Develop (KPIs) → Differentiation	0.337	0.337	0.030	11.178	0.000
H_4	Continues adoption to emerging technologies → Differentiation	0.606	0.605	0.031	19.459	0.000
H_5	Differentiation → Collaborative competitive advantage	0.854	0.854	0.014	60.246	0.000
	Collaborative partnerships → Collaborative competitive advantage	0.085	0.085	0.026	3.250	0.001
	Advanced marketing processes → Collaborative competitive advantage	0.419	0.418	0.027	15.425	0.000
	Develop (KPIs) → Collaborative competitive advantage	0.288	0.288	0.026	10.891	0.000
	Continues adoption to emerging technologies → Collaborative competitive advantage	0.518	0.517	0.027	18.988	0.000
H_6	Collaborative partnerships → Differentiation → Collaborative competitive advantage	0.085	0.085	0.026	3.250	0.001
H_7	Advanced marketing processes → Differentiation → Collaborative competitive advantage	0.419	0.418	0.027	15.425	0.000
H_8	Develop (KPIs) → Differentiation → Collaborative competitive advantage	0.288	0.288	0.026	10.891	0.000
H_9	Continues adoption to emerging technologies → Differentiation → Collaborative competitive advantage	0.518	0.517	0.027	18.988	0.000

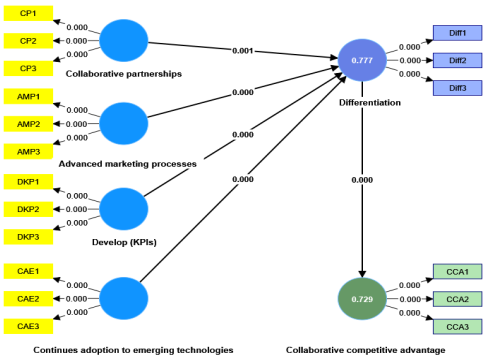

Fig. 7. Bootstrapping Differentiation Model's

4.2 Focused Strategy Model

This section revolves around examining the individual impact of the Focused Strategy on the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies)) and how it can influence the establishment of a Collaborative Competitive Advantage in global digital marketing.

4.2.1 Measurement and Structural Model Assessment

Table 4
Focused Strategy Model PLS-SEM Analysis

Observed	Constructs	Loadings	VIF	C alpha	AVE	R^2
CP1	Collaborative partnerships	0.886	2.255	0.858	0.779	
CP2		0.874	1.950			
CP3		0.888	2.395			
AMP1	Advanced marketing processes	0.865	2.095	0.857	0.777	
AMP2		0.889	2.142			
AMP3		0.889	2.178			
DKP1	Develop (KPIs)	0.895	2.415	0.861	0.782	
DKP2		0.870	2.030			
DKP3		0.888	2.210			
CAE1	Continues adoption to emerging technologies	0.849	1.802	0.814	0.728	
CAE2		0.848	1.837			
CAE3		0.864	1.749			
FS1	Focused Strategy	0.677	1.177	0.650	0.590	0.790
FS2		0.802	1.344			
FS3		0.816	1.384			
CCA1	Collaborative competitive advantage	0.854	1.800	0.775	0.690	0.629
CCA2		0.744	1.391			
CCA3		0.887	1.856			

The analysis of the Focused Strategy Model using PLS-SEM is presented in Table 4 given above. The table highlights the loadings, variance inflation factors (VIF), Cronbach's alpha (C alpha), Average Variance Extracted (AVE), and R-squared (R^2) values of the observed constructs. Each of the item loadings is over 0.7 except for FS1 it is a little below the minimal limit, but it is still acceptable showing a significant correlation between and their corresponding constructs. Every VIF value is less than 5, which demonstrates that the model does not appear to be concerned with multicollinearity. All constructs have values above 0.7 of Cronbach's alpha, illustrating strong internal consistency and dependability. Every construct has a value of more than 0.5 of AVE, which shows that the constructs account for a significant part of the variance. The Focused Strategy R-squared (R^2) coefficient is 0.790 indicating that 79.0% of the variance in Focused Strategy is attributed to the independent variables (Collaborative Partnerships, Advanced Marketing Processes, Developing KPIs, and Continuous Adoption of Emerging Technologies). The coefficient value for the Collaborative Competitive Advantage R-squared (R^2) is 0.629, showing that the variance in Collaborative Competitive Advantage is 62.9% explained by Focused Strategy. Table 4 demonstrates that the analysis and examination of the Focused Strategy Model's measurement and structural model represent the reliability and validity of the constructs and their indicators. All the independent variables (Collaborative Partnerships, Advanced Marketing Processes, Developing KPIs, and Continuous Adoption of Emerging Technologies) with the Focused Strategy show a substantial correlation in the model. Depending on the high and significant metrics of the R-squared values and route coefficients provide the model's excellent explanatory power and effective and valuable insights into how businesses may leverage the adoption of different marketing strategies to gain a collaborative competitive advantage.

4.2.2 Focused Strategy Model Path Coefficients Analysis

Table 5
Focused Strategy Model Path Coefficients Analysis

H		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H_{10}	Collaborative partnerships → Focused Strategy	0.383	0.381	0.034	11.252	0.000
H_{11}	Advanced marketing processes → Focused Strategy	0.343	0.342	0.038	8.949	0.000
H_{12}	Develop (KPIs) → Focused Strategy	0.319	0.319	0.043	7.487	0.000
H_{13}	Continues adoption to emerging technologies → Focused Strategy	0.605	0.604	0.037	16.482	0.000
H_{14}	Focused Strategy → Collaborative competitive advantage	0.793	0.794	0.024	32.659	0.000
	Collaborative partnerships → Collaborative competitive advantage	0.304	0.303	0.027	11.136	0.000
	Advanced marketing processes → Collaborative competitive advantage	0.272	0.272	0.030	8.978	0.000
	Develop (KPIs) → Collaborative competitive advantage	0.253	0.253	0.034	7.533	0.000
	Continues adoption to emerging technologies → Collaborative competitive advantage	0.480	0.480	0.032	15.103	0.000
H_{15}	Collaborative partnerships → Focused Strategy → Collaborative competitive advantage	0.304	0.303	0.027	11.136	0.000
H_{16}	Advanced marketing processes → Focused Strategy → Collaborative competitive advantage	0.272	0.272	0.030	8.978	0.000
H_{17}	Develop (KPIs) → Focused Strategy → Collaborative competitive advantage	0.253	0.253	0.034	7.533	0.000
H_{18}	Continues adoption to emerging technologies → Focused Strategy → Collaborative competitive advantage	0.480	0.480	0.032	15.103	0.000

Direct Effects on Focused Strategy

- H_{10}: The path from Collaborative Partnerships to Focused Strategy has a coefficient of 0.383, a T statistic of 11.252, and a P value of 0.000, indicating a significant positive effect.
- H_{11}: The path from Advanced Marketing Processes to Focused Strategy has a coefficient of 0.343, a T statistic of 8.949, and a P value of 0.000, indicating a strong positive effect.
- H_{12}: The path from Developing KPIs to Focused Strategy has a coefficient of 0.319, a T statistic of 7.487, and a P value of 0.000, indicating a significant positive effect.
- H_{13}: The path from Continual Adoption of Emerging Technologies to Focused Strategy has a coefficient of 0.605, a T statistic of 16.482, and a P value of 0.000, indicating a strong positive effect.

Direct Effects on Collaborative Competitive Advantage

- H_{14}: The path from Focused Strategy to Collaborative Competitive Advantage has a coefficient of 0.793, a T statistic of 32.659, and a P value of 0.000, indicating a very strong positive effect.

- The paths from Collaborative Partnerships (0.304), Advanced Marketing Processes (0.272), Developing KPIs (0.253), and Continual Adoption of Emerging Technologies (0.480) to Collaborative Competitive Advantage are all significant, indicating that these factors also directly influence competitive advantage.

Indirect Effects (Mediating Effects)

- H_{15}: Focused Strategy mediates the relationship between Collaborative Partnerships and Collaborative Competitive Advantage with a coefficient of 0.304, a T statistic of 11.136, and a P value of 0.000.
- H_{16}: Focused Strategy mediates the relationship between Advanced Marketing Processes and Collaborative Competitive Advantage with a coefficient of 0.272, a T statistic of 8.978, and a P value of 0.000.
- H_{17}: Focused Strategy mediates the relationship between Developing KPIs and Collaborative Competitive Advantage with a coefficient of 0.253, a T statistic of 7.533, and a P value of 0.000.
- H_{18}: Focused Strategy mediates the relationship between Continual Adoption of Emerging Technologies and Collaborative Competitive Advantage with a coefficient of 0.480, a T statistic of 15.103, and a P value of 0.000.

To examine the hypothesized connections between constructs, the structural model assessment is sufficient. Table 5 shows the Focused Strategy Model Path coefficient analysis to assess the relationships. According to the analysis of the Focused Strategy Model's route coefficients demonstrated in the table, the Focused Strategy is impacted significantly by independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies). Thus, Focused Strategy also positively influences Collaborative Competitive Advantage. Through this, Focused Strategy has a substantial role in enhancing the gaining of Collaborative Competitive Advantage in the field of global digital marketing via influencing the relationships between independent variables. Ultimately, the positive effects of the results support the hypothesis of the Focused Strategy Model and demonstrate how beneficial the employ of these strategies is in fostering and optimizing the gaining of collaborative competitive advantage opportunities.

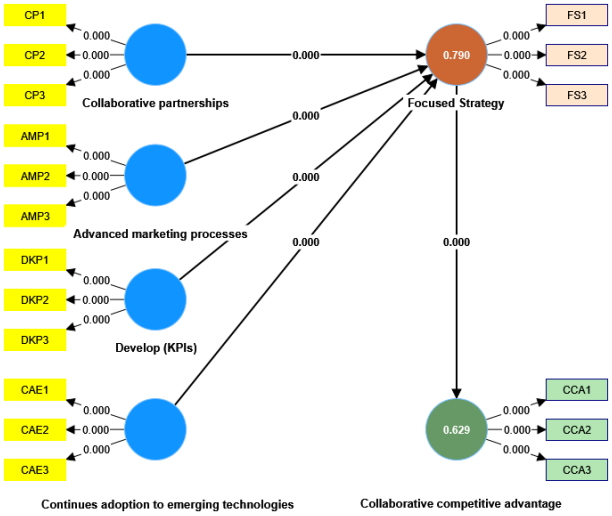

Fig. 8. Bootstrapping Focused Strategy Model's

4.3 Cost Leadership Model

This section describes the examination of the third model of the study which is the Cost Leadership Model. The goal of this analysis is to aid in understanding the Cost Leadership Model from two sides, how Cost Leadership impacts independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies), and the other side is how these independent variables are mediated by Cost leadership and effect Collaborative Competitive Advantage in the realm of global digital marketing.

4.3.1 Measurement and Structural Model Assessment

The analysis of the Cost Leadership Model using PLS-SEM is illustrated in Table 6 which is shown above. The loadings, variance inflation factors (VIF), Cronbach's alpha (C alpha), Average Variance Extracted (AVE), and R-squared (R^2) values of the observed constructs are all outlined in the table. Values of the loadings shown in the table are all more than 0.7 which demonstrates that the indicators are accurately represented by their respective constructs. The Variance Inflation Factors (VIF) are all less than 5 indicating that multicollinearity among the indicators is not an issue. Cronbach's Alpha (C alpha) value of all the constructs is more than 0.7 which gives them strong internal consistency and reliability. The constructs contribute to a substantial part of the variance since all the constructs have a value of more than 0.5 of the Average Variance Extracted (AVE). The value of the Cost Leadership R-squared (R^2) is 0.798 which indicates the variance in Cost Leadership is 79.8%

which represents the independent factors (Collaborative Partnerships, Advanced Marketing Processes, Developing KPIs, and Continuous Adoption of Emerging Technologies). 0.684 is the coefficient Value of Collaborative Competitive Advantage R-squared this suggests that the variance in Collaborative Competitive Advantage is 68.4% represented by Cost Leadership. The accurate VIF values, high rates of ladings, high Cronbach's alpha measurements, and adequate value of AVE, based on the resilience and evaluation criteria of the measurement model indicate that the value of the measurements of each construct and its indicators are accurate, precise, and reliable. Furthermore, the robustness values of the metrics of R-squared indicate how the substantial amount of the variance in Cost Leadership and Collaborative Competitive Advantage account for the independent variables in the model.

Table 6
Cost Leadership Model PLS-SEM Analysis

Observed	Constructs	Loadings	VIF	C alpha	AVE	R^2
CP1	Collaborative partnerships	0.887	2.350	0.884	0.811	
CP2		0.902	2.471			
CP3		0.913	2.741			
AMP1	Advanced marketing processes	0.891	2.215	0.865	0.787	
AMP2		0.895	2.321			
AMP3		0.876	2.178			
DKP1	Develop (KPIs)	0.894	2.241	0.855	0.775	
DKP2		0.877	2.136			
DKP3		0.871	2.025			
CAE1	Continues adoption to emerging technologies	0.842	1.675	0.796	0.710	
CAE2		0.849	1.749			
CAE3		0.837	1.657			
CL1	Cost Leadership	0.829	1.401	0.663	0.598	0.798
CL2		0.801	1.337			
CL3		0.682	1.212			
CCA1	Collaborative competitive advantage	0.878	1.967	0.790	0.704	0.684
CCA2		0.748	1.453			
CCA3		0.883	1.851			

4.3.2 Cost Leadership Model Path Coefficients Analysis

Direct Effects on Cost Leadership:

- H19: Collaborative Partnerships → Cost Leadership: The path coefficient is 0.373, T=12.937, and P=0.000, indicating a significant positive effect.
- H20: Advanced Marketing Processes → Cost Leadership: The path coefficient is 0.357, T=11.295, and P=0.000, indicating a strong positive effect.
- H21: Developing KPIs → Cost Leadership: The path coefficient is 0.366, T=11.678, and P=0.000, indicating a significant positive effect.
- H22: Continual Adoption of Emerging Technologies → Cost Leadership: The path coefficient is 0.601, T=18.180, and P=0.000, indicating a strong positive effect.

Direct Effects on Collaborative Competitive Advantage:

- H23: Cost Leadership → Collaborative Competitive Advantage: The path coefficient is 0.827, T=50.794, and P=0.000, indicating a very strong positive effect.
- The paths from Collaborative Partnerships (0.308), Advanced Marketing Processes (0.295), Developing KPIs (0.302), and Continual Adoption of Emerging Technologies (0.497) to Collaborative Competitive Advantage are all significant, indicating that these factors also directly influence competitive advantage.

Indirect Effects (Mediating Effects):

- H24: Collaborative Partnerships → Cost Leadership → Collaborative Competitive Advantage: The indirect effect is significant with a path coefficient of 0.308, T=13.174, and P=0.000.
- H25: Advanced Marketing Processes → Cost Leadership → Collaborative Competitive Advantage: The indirect effect is significant with a path coefficient of 0.295, T=11.156, and P=0.000.
- H26: Developing KPIs → Cost Leadership → Collaborative Competitive Advantage: The indirect effect is significant with a path coefficient of 0.302, T=11.840, and P=0.000.
- H27: Continual Adoption of Emerging Technologies → Cost Leadership → Collaborative Competitive Advantage: The indirect effect is significant with a path coefficient of 0.497, T=17.743, and P=0.000.

To evaluate and assess the structural model, it is crucial to examine and analyze the hypothesized relationships between the constructs in the model. The statistical method of Path Coefficient Analysis shown in Table 7 assists in dividing the correlation

coefficients into direct and indirect effects of the Cost Leadership Model. The evaluation of the analysis shows the strongly positive influence of the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) on Cost Leadership strategy. Additionally, the Cost Leadership strategy substantially boosts Collaborative Competitive Advantage. Consequently, the Cost Leadership strategy acts as a mediating variable in the relationship between the independent variables and the Collaborative Competitive Advantage which demonstrates the critical role of this strategy in further encouraging the gain of competitive advantage over rivals in the realm of global digital marketing.

Table 7
Cost Leadership Model Path Coefficients Analysis

H	Path	Original	Sample	Standard	T statistics	P values
H19	Collaborative partnerships → Cost Leadership	0.373	0.373	0.029	12.937	0.000
H20	Advanced marketing processes → Cost Leadership	0.357	0.357	0.032	11.295	0.000
H21	Develop (KPIs) → Cost Leadership	0.366	0.365	0.031	11.678	0.000
H22	Continues adoption to emerging technologies → Cost Leadership	0.601	0.601	0.033	18.180	0.000
H23	Cost Leadership → Collaborative competitive advantage	0.827	0.828	0.016	50.794	0.000
	Collaborative partnerships → Collaborative competitive advantage	0.308	0.308	0.023	13.174	0.000
	Advanced marketing processes → Collaborative competitive advantage	0.295	0.295	0.026	11.156	0.000
	Develop (KPIs) → Collaborative competitive advantage	0.302	0.302	0.026	11.840	0.000
	Continues adoption to emerging technologies → Collaborative competitive advantage	0.497	0.498	0.028	17.743	0.000
H24	Collaborative partnerships → Cost Leadership → Collaborative competitive advantage	0.308	0.308	0.023	13.174	0.000
H25	Advanced marketing processes → Cost Leadership → Collaborative competitive advantage	0.295	0.295	0.026	11.156	0.000
H26	Develop (KPIs) → Cost Leadership → Collaborative competitive advantage	0.302	0.302	0.026	11.840	0.000
H27	Continues adoption to emerging technologies → Cost Leadership → Collaborative competitive advantage	0.497	0.498	0.028	17.743	0.000

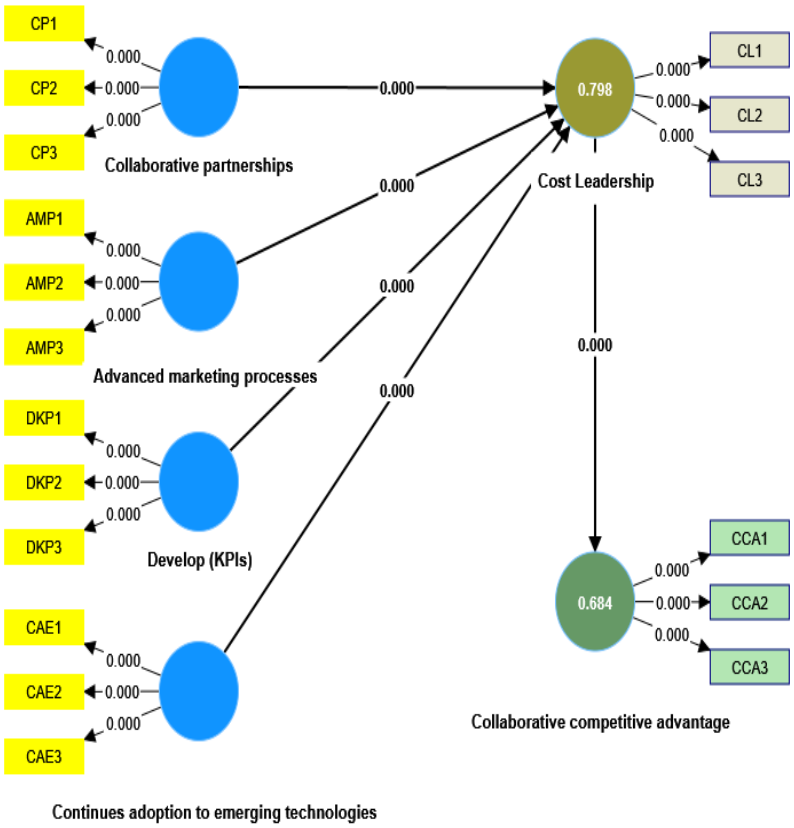

Fig. 9. Bootstrapping Cost Leadership Model's

4.4 Combined Model

This section aims to provide a detailed investigation of the fourth model in the study which describes the combined impact of all the previous strategies together. The analysis of the Combined Model in this section aims to give a comprehensive

understanding of the influence of the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) on the three strategies (Differentiation, Focused Strategy, and Cost Leadership). Moreover, provides an analysis of how these strategies impact Collaborative Competitive Advantage in the global digital marketing field.

4.4.1 Measurement and Structural Model Assessment

The measurement model assessment of the Combined Model is shown in Table 8 above. By means of the PLS-SEM analysis, this section aims to assess the reliability and accuracy of the value of constructs in the table. The values of each item of loadings, variance inflation factors (VIF), Cronbach's alpha (C alpha), Average Variance Extracted (AVE), and R-squared (R^2) are all provided in the table. The measures of the loadings in the table are all more than 0.7 which shows that the indicators are precisely represented by their respective constructs. The values are all less than 5 of the VIF which indicates that there is no issue related to multicollinearity within the indicators. The construct values of Cronbach's Alpha (C alpha) are all greater than 0.7 indicating the excellence of internal consistency and reliability. Each construct reflects a significant proportion of the variance since the AVE values of the constructs are all higher than 0.5 in the table. The value of Differentiation R-squared (R^2) is 0.535 indicating that a proportion of 53.5% is reflected in the independent variables of the variance in Differentiation. The Focused Strategy R-squared (R^2) value accounted for 0.397 which suggests that the variance in Focused Strategy is represented by 39.7% in the independent variables. For the value of The Cost Leadership R-squared (R^2), it is counted as 0.516 showing that 51.6% of the independent variables represent the variance in Cost Leadership. The value 0.693 of Collaborative Competitive Advantage R-squared (R^2) suggests that the value of the mediating variables is equivalent to 69.3% of the variance in Collaborative Competitive Advantage. All these values assist in extracting the findings of the analysis of the measurement model showing the values of robustness of loadings, favorable values of VIF, high values of Cronbach's alpha, and satisfactory values of AVE, these values confirm and ensure each construct and its indicator's reliability, validity, and accuracy of the measurement model. Additionally, the values of R-squared analysis demonstrated that the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) can serve a significant portion of the variability in Differentiation, Focused Strategy, Cost Leadership, and Collaborative Competitive Advantage.

Table 8
Combined Model PLS-SEM Analysis

Observed	Constructs	Loadings	VIF	C alpha	AVE	R^2
CP1	Collaborative partnerships	0.886	2.272	0.874	0.799	
CP2		0.899	2.342			
CP3		0.897	2.465			
AMP1	Advanced marketing processes	0.874	2.118	0.854	0.774	
AMP2		0.878	2.169			
AMP3		0.888	2.061			
DKP1	Develop (KPIs)	0.894	2.284	0.855	0.774	
DKP2		0.886	2.089			
DKP3		0.859	2.026			
CAE1	Continues adoption to emerging technologies	0.837	1.669	0.795	0.709	
CAE2		0.845	1.708			
CAE3		0.845	1.681			
Diff1	Differentiation	0.803	1.499	0.739	0.658	0.535
Diff2		0.868	1.677			
Diff3		0.758	1.367			
FS1	Focused Strategy	0.664	1.171	0.648	0.588	0.397
FS2		0.812	1.347			
FS3		0.814	1.387			
CL1	Cost Leadership	0.815	1.357	0.652	0.590	0.516
CL2		0.793	1.297			
CL3		0.689	1.212			
CCA1	Collaborative competitive advantage	0.857	1.774	0.768	0.683	0.693
CCA2		0.744	1.383			
CCA3		0.871	1.740			

4.4.2 *Combined Model Path Coefficients Analysis*

The analysis's findings corroborate the suggested hypothesis:

1. Direct Effects on Differentiation, Focused Strategy, and Cost Leadership:

- H28: Differentiation strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.
- H29: Focused strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.
- H30: Cost leadership strategy has a positive effect on achieving collaborative competitive advantage in global digital marketing.
- H31: The combined use of differentiation, focused strategy, and cost leadership has a stronger positive effect on achieving collaborative competitive advantage in global digital marketing than the individual use of each strategy.

Table 9
Combined Model Path Coefficients Analyses

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
Collaborative partnerships → Differentiation	0.071	0.071	0.033	2.145	0.032
Collaborative partnerships → Focused Strategy	0.248	0.247	0.039	6.291	0.000
Collaborative partnerships → Cost Leadership	0.328	0.328	0.032	10.303	0.000
Advanced marketing processes → Differentiation	0.402	0.402	0.035	11.410	0.000
Advanced marketing processes → Focused Strategy	0.192	0.192	0.039	4.941	0.000
Advanced marketing processes → Cost Leadership	0.278	0.277	0.037	7.426	0.000
Develop (KPIs) → Differentiation	0.296	0.296	0.033	8.842	0.000
Develop (KPIs) → Focused Strategy	0.290	0.291	0.042	6.856	0.000
Develop (KPIs) → Cost Leadership	0.285	0.284	0.032	8.778	0.000
Continues adoption to emerging technologies → Differentiation	0.516	0.515	0.035	14.787	0.000
Continues adoption to emerging technologies → Focused Strategy	0.449	0.448	0.035	12.891	0.000
Continues adoption to emerging technologies → Cost Leadership	0.473	0.473	0.034	13.734	0.000
Differentiation → Collaborative competitive advantage	0.454	0.455	0.037	12.134	0.000
Focused Strategy → Collaborative competitive advantage	0.161	0.159	0.048	3.383	0.001
Cost Leadership → Collaborative competitive advantage	0.414	0.414	0.042	9.892	0.000
Collaborative partnerships → Collaborative competitive advantage	0.208	0.208	0.024	8.691	0.000
Advanced marketing processes → Collaborative competitive advantage	0.328	0.329	0.027	12.280	0.000
Develop (KPIs) → Collaborative competitive advantage	0.298	0.299	0.023	12.791	0.000
Continues adoption to emerging technologies → Collaborative competitive advantage	0.502	0.503	0.025	20.112	0.000
Collaborative partnerships → Differentiation → Collaborative competitive advantage	0.032	0.033	0.016	2.074	0.038
Collaborative partnerships → Focused Strategy → Collaborative competitive advantage	0.040	0.040	0.014	2.845	0.004
Collaborative partnerships → Cost Leadership → Collaborative competitive advantage	0.136	0.136	0.020	6.950	0.000
Advanced marketing processes → Differentiation → Collaborative competitive advantage	0.183	0.183	0.025	7.323	0.000
Advanced marketing processes → Focused Strategy → Collaborative competitive advantage	0.031	0.031	0.012	2.586	0.010
Advanced marketing processes → Cost Leadership → Collaborative competitive advantage	0.115	0.115	0.021	5.426	0.000
Develop (KPIs) → Differentiation → Collaborative competitive advantage	0.134	0.135	0.020	6.614	0.000
Develop (KPIs) → Focused Strategy → Collaborative competitive advantage	0.047	0.046	0.015	3.154	0.002
Develop (KPIs) → Cost Leadership → Collaborative competitive advantage	0.118	0.118	0.018	6.407	0.000
Continues adoption to emerging technologies → Differentiation → Collaborative competitive	0.234	0.235	0.028	8.238	0.000
Continues adoption to emerging technologies → Focused Strategy → Collaborative competitive advantage	0.072	0.072	0.024	3.010	0.003
Continues adoption to emerging technologies → Cost Leadership → Collaborative competitive advantage	0.196	0.196	0.027	7.157	0.000

2. Indirect Effects (Mediating Effects):

● The findings show that the three strategies of Differentiation, Focused Strategy, and Cost Leadership have a substantial impact on the relationship between the independent variables (Collaborative Partnerships, Advanced Marketing Processes, Developing KPIs, and Continual Adoption of Emerging Technologies) and Collaborative Competitive Advantage.

The assessment process of the evaluation in the structural model encompasses the analysis and the measurements of the hypothesized relationships between constructs. The utilization of Path Coefficient Analysis is a critical method to examine, evaluate, and assess the correlation coefficients of direct and indirect effects in the model, Table 9 illustrates the use of this statistical method to investigate and examine the Combined Model of the study effectively and efficiently. The results of the deep analysis and evaluation of the structural model and the hypotheses assert and confirm the critical and dynamic role of the three strategies (Differentiation, Focused Strategy, and Cost Leadership) in this study. The analysis indicates a strong and

substantial connection between the correlation of the independent variables (Developing KPIs, Collaborative Partnerships, Advanced Marketing Processes, and Continuous Adoption of Emerging Technologies) and the mediating variables (Differentiation, Focused Strategy, and Cost Leadership). Moreover, these strategies also have a significant impact on enhancing the gain of Collaborative Competitive Advantage opportunities. Consequently, in turn, these strategies emphasized its productiveness and effectiveness role as a mediating variable in driving the correlations between the independent variables and the gain of Collaborative Competitive Advantage in global digital marketing. The significant results of the study provide and serve as a pathway and roadmap for organizations to build successful approaches on how they might use different techniques to gain competitive advantage opportunities.

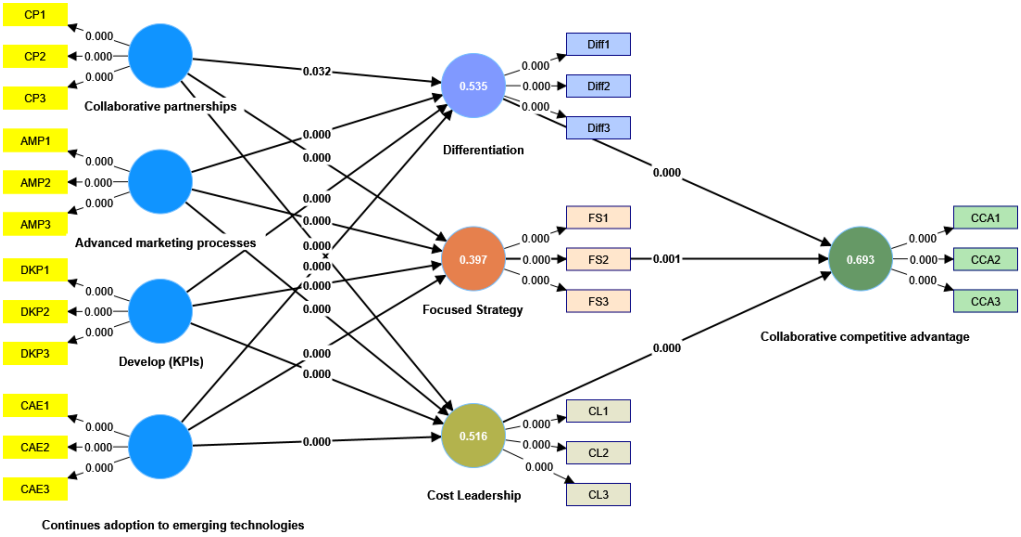

Fig. 10. Bootstrapping Combined Model

5. Result and Discussion

The analysis method used in this study which is PLS-SEM provides a comprehensive view and insights that allow the examination of the role and functions of the three strategies (Differentiation, Focused Strategy, and Cost Leadership) in driving Collaborative Competitive Advantage of the global digital marketing field. This section aims to describe how the utilization of different analysis tools leads to the results of the research and its theoretical and practical implications.

5.1 Statistical Comparison of Combined Model vs. Individual Models

The utilization of different statistical indicators and metrics for examining the complex relationships between variables determines the significance of this study in gaining a comprehensive understanding and appropriate insights. The key metrics for comparison used in this study such as R-squared (R^2), Path Coefficients, T-statistics, and P-values. Each of these metrics has its functions, criteria, and measurements in comparing the relationships. For the metrics of R-squared (R^2) values, it assists in designating the proportion of variance in the dependent variable Collaborative Competitive Advantage (CCA) explained by the independent variables. The Path coefficient metrics help to measure the values that determine the strength and direction of relationships between constructs. The rates of T-statistics and P-values aid in evaluating and assessing the significance of the relationships. These various metrics provide a comprehensive, appropriate, and clear understanding of how well the combined model performs compared to the effects of component or separate models (Differentiation Model, Focused Strategy Model, and Cost Leadership Model).

Table 10
Comparison of Combined Model vs. Individual Models

Model	Path	Original Sample (O)	T Statistics (O/STDEV)	P Values	CCA - R^2
Combined Model	Differentiation → Collaborative Competitive Advantage	0.454	12.134	0.000	0.693
	Focused Strategy → Collaborative Competitive Advantage	0.161	3.383	0.001	
	Cost Leadership → Collaborative Competitive Advantage	0.414	9.892	0.000	
Differentiation Model	Differentiation → Collaborative Competitive Advantage	0.854	60.246	0.000	0.729
Focused Strategy Model	Focused Strategy → Collaborative Competitive Advantage	0.793	32.659	0.000	0.629
Cost Leadership Model	Cost Leadership → Collaborative Competitive Advantage	0.827	50.794	0.000	0.684

Table 10 shows the results of the analysis using different metrics to make a comparison of the Combined Model compared to Individual Models. Table 10 reflects three important findings of this study. Firstly, the highest R-squared (R^2) value in the differentiation model, it shows that it accounts for the highest value of variances in Collaborative Competitive Advantage. Although the differentiation model has the highest value of R^2, still also the combined model suggests a robust value of R2 that should be taken into consideration since it shows that the adoption of these strategies is also highly effective and successful. Secondly, although the Path Coefficients for individual models have significant values, the combination of the three strategies together makes a considerably powerful impact on the Collaborative Competitive Advantage, thus, emphasizing the idea of the Combined Model of using these strategies collectively to build successful approaches to increase the chances of gaining a more competitive advantage. Thirdly, the results of the study confirm the importance of the existence of the role of mediating effects in the combined model since these strategies not only have a direct effect on Collaborative Competitive Advantage but also serve as a clear path and roadmap for developing effective and successful approaches and strategies for gaining more competitive advantage among rivals.

The results of various metrics of statistical analyses show that high R-squared values, significant Path Coefficients, and the role of mediating effects in the combined model emphasize that the combination of the three strategies (Differentiation, Focused Strategy, and Cost Leadership) achieves a comprehensive and successful approach to enhance Collaborative Competitive Advantage in the field of global digital marketing. Though each technique's separate models demonstrate its efficacy when used alone, the combined model that integrates the three strategies raises the chances of gaining a successful and stronger competitive advantage which reflects Hypothesis H31 and supports it. Ultimately, organizations should employ the three strategies collectively to drive better, successful, and effective competitive advantage rather than relying just on one strategy.

5.2 Theoretical Implications

The results highlight two important theoretical implications. First, the results revealed the significant effect of the synergy of the Combined Model, highlighting Hypothesis H31, since the combination of the three strategies collectively has a more significant positive impact on achieving Collaborative Competitive Advantage compared to implementing each strategy alone. This powerful synergistic effect builds a strong backbone for the existing knowledge in strategic management, this assures the necessity of implementing an integrated approach in strategic planning. Second, the role of mediating variables in the combined model in enhancing the obtain of Collaborative Competitive Advantage, emphasizes that organizations to not just view these strategies as separate entities, while they should concentrate on the interdependent relationship between strategic objectives and marketing procedures to build a more successful roadmap for their strategy frameworks.

5.3 Practical Implications

The results of the study highlight three practical implications. First, as each organization needs to gain a stronger competitive advantage, they should focus on prioritizing the integral adoption of the three strategies (Differentiation, Focused Strategy, and Cost Leadership) collectively into their strategic planning processes to ensure their sustainable position of gaining a stronger competitive advantage. Second, the role of these strategies in the allocation of resources since the Cost Leadership Strategy focuses on the differentiation of initiatives and this can aid them in achieving cost savings, while the Focused Strategy supports gaining knowledge so that they can develop their products efficiently and effectively in accordance to the market needs and preferences. Third, the adoption of the strategies with establishing Key Performance Indicators (KPIs) is crucial for organizations, since they can monitor their performance continuously, this can help them to make adjustments or improvements to their strategic frameworks to make sure their plans align with both organizations' objectives and market dynamics.

6. Conclusion

This study offers a thorough examination of the functions of differentiation, focused strategy, and cost leadership in attaining collaborative competitive advantage in the realm of global digital marketing. The results confirm the hypothesis that the simultaneous implementation of these strategies produces a more pronounced positive impact on competitive advantage compared to the separate implementation of each strategy. This study provides a comprehensive analysis of the functions of the three strategies (Differentiation, Focused Strategy, and Cost Leadership) in achieving a collaborative competitive advantage in the global field of digital marketing. The results confirm the hypothesis that when these strategies are implemented simultaneously, the beneficial impact on competitive advantage is more obvious and effective than when each technique is implemented separately. A significant portion of the variance in Collaborative Competitive Advantage is successfully explained by the combined model's integrated strategic approach. The significant Path Coefficients analysis of the integrated model indicates that the three strategies (Differentiation, Focused Strategy, and Cost Leadership) all have significant and positive impacts on enhancing Collaborative Competitive Advantage, both independently and in combination. Additionally, the significant indirect effects of the role of the mediating variables highlight the powerful interdependence relationship of adopting strategic objectives with fundamental marketing operations. The study provides insights for organizations and highlights how the significance of the implementation of the three marketing strategies (Differentiation, Focused Strategy, and Cost Leadership)

collectively together in raising the opportunities for growing Collaborative Competitive Advantage in global digital marketing.

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Appendix

Enhanced version of the code to prepare the data for analysis.

```
import pandas as pd

# Load the Excel file
file_path = 'Data/M03_Missing.xlsx'
data = pd.read_excel(file_path)

# Define the columns for each model
common_columns = ['CP1', 'CP2', 'CP3', 'AMP1', 'AMP2', 'AMP3', 'DKP1', 'DKP2', 'DKP3', 'CAE1', 'CAE2', 'CAE3']
diff_columns = common_columns + ['Diff1', 'Diff2', 'Diff3', 'CCA1', 'CCA2', 'CCA3']
fs_columns = common_columns + ['FS1', 'FS2', 'FS3', 'CCA1', 'CCA2', 'CCA3']
cl_columns = common_columns + ['CL1', 'CL2', 'CL3', 'CCA1', 'CCA2', 'CCA3']

# Differentiation Model
differentiation_model = data[diff_columns].dropna()
differentiation_model_path = 'Data/differentiation_model.xlsx'
differentiation_model.to_excel(differentiation_model_path, index=False)

# Focused Strategy Model
focused_strategy_model = data[fs_columns].dropna()
focused_strategy_model_path = 'Data/focused_strategy_model.xlsx'
focused_strategy_model.to_excel(focused_strategy_model_path, index=False)

# Cost Leadership Model
cost_leadership_model = data[cl_columns].dropna()
cost_leadership_model_path = 'Data/cost_leadership_model.xlsx'
cost_leadership_model.to_excel(cost_leadership_model_path, index=False)

# Replace missing data (NaN) with a neutral value (e.g., 3) for the combined model
data.fillna(3, inplace=True)

# Adjust logic for creating dummy variables
# If any of the Diff1, Diff2, Diff3 values are not equal to 3, then the strategy is considered used.
data['Uses_Differentiation'] = data[['Diff1', 'Diff2', 'Diff3']].apply(lambda row: 1 if any(row != 3) else 0, axis=1)
data['Uses_Focused_Strategy'] = data[['FS1', 'FS2', 'FS3']].apply(lambda row: 1 if any(row != 3) else 0, axis=1)
data['Uses_Cost_Leadership'] = data[['CL1', 'CL2', 'CL3']].apply(lambda row: 1 if any(row != 3) else 0, axis=1)

# Combined Model (includes all data)
combined_model_path = 'Data/combined_model.xlsx'
data.to_excel(combined_model_path, index=False)

print(f"Combined model data saved to {combined_model_path}")
print(f"Differentiation model data saved to {differentiation_model_path}")
print(f"Focused strategy model data saved to {focused_strategy_model_path}")
print(f"Cost leadership model data saved to {cost_leadership_model_path}")
```