Smartphone Photography and the Low Patronage of Commercial Photographers in Nigeria

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Abstract

This research empirically focused on discovering the effect of smartphone photography on the low patronage of commercial photographers in Yenagoa, Bayelsa state of Nigeria. The significant changes brought about by emergence of smartphone technology in the twenty-first century are felt across all aspects of life. While the business world has experienced both advantages and challenges due to this innovation, commercial photography, in particular, has been adversely affected. The advanced and sophisticated inbuilt cameras of modern smartphones turned all smartphone owners to photographers, enabling them to take their own photos and arguably reducing the demand for professional photographers. It was against this backdrop that three objectives were established, each with corresponding hypotheses to test the claims. Two hundred and twenty-two participants were sampled to generate primary data for the research using a well-structured questionnaire. Data from the respondents were analyzed using multiple linear regression. The study found that smartphone picture snapping, smartphone picture posting and efficiency and effectiveness of smartphone Photography contributes to the decline in patronage of commercial photography in Yenagoa, Bayelsa State, Nigeria, ultimately having a negative impact on the business of commercial photographers. The research advocated that Photographers should pursue further training and embrace innovation to leverage smartphone technology and enhance their patronage as comprehensive training is essential for business success.

Keywords: Smartphone, Photography, Digital Cameras, Social Media, Patronage

1. INTRODUCTION

Today's world is able to tell the story of the ancient times because of man's innovative abilities to perceive the necessity of preserving memories in prints that can outlive them. To ensure that this necessity is actualised, ancient men embarked on recording their life's moments by introducing the art of painting, drawing, sculptures, and lots more which enable today's world to tell the story of ancient times (Brako-Hiapa and Danso, 2020). These works of art by the ancient artists contributed immensely in effective communication of the beliefs, culture and traditions of a people from a generation to another. However, in modern times, with the advent of technological innovations, man now have a faster, more convenient and uncomplicated means of capturing and recording memories through photography which completely differs from the previous ways.

Wikipedia, (2024) sees photography as the art, application and exercise of capturing indelible images through the recording of light either electronically by the use of an image sensor

(conductors) or chemically by the use of other sensitive materials such as film. It is a universal communication tool that help people to share what they find beautiful and significant in everyday life (Ballenger, 2014).

Since humans are deeply connected to their past, the role of photography in preserving and narrating history remains essential. As a result, people naturally seek to capture their stories through photographs

The evolution of cameras has progressed through various stages, from early models to the analogue Single-Lens Reflex (SLR) camera and, eventually, to modern Digital Single-Lens Reflex (DSLR) cameras, which utilize semiconductors to electronically record light. Today, photographers operate highly advanced equipment, such as the Nikon D7200, Canon EOS 5D, and Sony a7 II, which, despite their high cost, are capable of producing exceptional-quality images.

Most Digital Single-Lens Reflector (DSLR) cameras are big in size, therefore they are not compatible to be carried everywhere by users without a specific engagement. It also requires professional photographic skills to handle them (Ballenger, 2014). Holly (2014) affirms that mastering the art of photography requires an understanding of the camera's technical components. Therefore, producing high-quality photographs necessitates formal training, either through formal education or apprenticeship.

More than a decade ago, the shift from analog cameras to advanced digital equipment led to increased demand for commercial portrait photography services.The printing of images too experienced upturn especially with the use of the portable hand-carrying Canon battery-aided instant printer. Staurt (2013), noted that with the advancement of technology, the narrative in the photography industry has shifted. The integration of camera lenses into smartphones has revolutionized photography, creating a new experience and significantly increasing the rate at which people take photographs worldwide (Ritcher, 2021). The mobile camera smartphone has enhanced mobility, usability, portability, and handling without requiring any professional skill to take quality photographs. As a result, nearly anyone with a smartphone has become a potential photographer. While this is true, Nuhel (2021) argues that although anyone can use an Android device to take a photograph, creating a truly great image requires advanced photography skills. Similarly, Kayode (2019) emphasizes that mastering focus, composition, and editing is essential for producing high-quality images. Therefore, photography should be taught in schools and studios (Ballenger, 2014). But as smartphone adoption increased over time, the patronage of commercial photography appears to have drastically reduced. According to Kayode (2019), the innovative smartphone photography development in campuses has disorganised the professional photographers who are mostly on commercial purpose. Saeed and Hassan (2020) confirm that the rise of smartphones has transformed nearly everyone into a photographer, reducing the necessity for professional photographers to capture images.

Furthermore, with the multi-functionality of the mobile phone, the camera has become a key factor in making choice of mobile phones due to the satisfaction users derive from taking photographs. According to Saragadam (2018), Fayose, T.S., Adebara, L. and Bolarinwa, F.A. (2021), mobile photography is on the increase especially among youths that are active on the social media. Kayode (2019) assert that, this choice of better camera and increase in the demand for smartphone is necessitated by the tremendous rise of the number of persons inclined in taking and sharing pictures on social media. Sasu, (2024) via (startista.com) reported that approximately 84 million Nigerians use the internet via mobile devices and it is projected to

increase to 117 million by 2027. That's, there is over 100 per cent growth in the level of internet access in a period of just few years via the mobile device.
Going further, Kayode (2019), opined that with the minimised technological difficulties associated with the smartphone, the average person can now comfortably by themselves take photo in most occasions of life. Richter (2017) also highlighted that the widespread use of smartphones equipped with multiple cameras—carried by over a billion people—has significantly contributed to the rapid increase in photographs circulating worldwide. Contributing to this, the award winning photographer Chase Jarvis famously stated, "the best camera is the one that is always with you", as cited by Richter (2017). Furthermore, data from Startista.com, (2017) showed that about 1.7 billion photographs were taken worldwide in that same year. InfoTrends also noted that 85% of these images were capture using smartphones. Richter (2017).

One of the problems associated with commercial photography is that people now prefer soft copy photographs to hardcopy photographs, and this has led to a downturn for the printing of images. Buying of hardcopy picture started to decline also as customers complained that they find it difficult to preserve them as they easily get damaged. Others on this note preferred the soft copy they store in their mobile device and eventually post to their social media handles. Saragadam (2018) affirmed that social media as a platform means no need to print images before one can show to the world. Saeed and Hassan (2020), Argued that printed photographs are vulnerable to fire, water, and other disasters, and when kept too long a time often fade away, but the soft copy could last longer when well preserved.
Other problems associated with commercial photography is the urgency to share photos on the social media. Sensitivity of smartphone users to the prices charged by commercial photographers on services rendered is another problem of concern. This is because smartphone users now sees smartphone image capturing as more cost efficient and effective compared to hiring the service of commercial photographer. This is further supported by Obasa (2019), who reported that respondents preferred capturing images with their smartphones because it is more cost-effective and less stressful compared to hiring professional photographers. According to Scott (2008), as cited by Kayode (2019), the cost-effectiveness and efficiency of smartphone photography have enabled many people to accumulate personal photographs with ease.

It is against this backdrop that this research is focused on examining the extent to which the usage of smartphones for photography, soft copy storage and their usage on social media contribute to the decline in patronage of commercial photographers in Yenagoa, Bayelsa State, Nigeria.

1.2 Hypotheses of the Study

$H0_1$: Smartphone picture snapping have no significant effect on the low patronage of commercial photographers

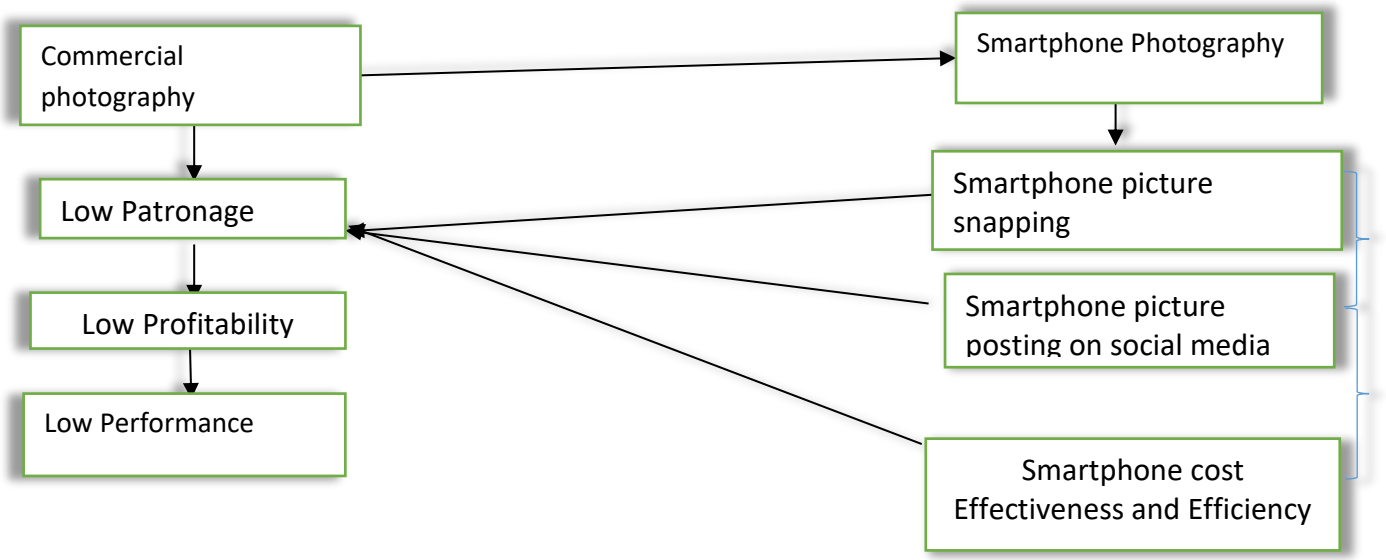
$H0_2$: No significant relationship exist between smartphone picture posting and the low profitability of commercial photographers.

$H0_3$: Smartphone effectiveness and efficiency have no significant effect on the low patronage of commercial photographer.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

This study relies on the following concepts;



The conceptual framework on Smartphone Photography and the Low Patronage of Commercial Photographers in Nigeria
Source: Researchers, 2024

Advent of smartphone

A smartphone is a compact, versatile device that functions through a wireless radio network. It operates using a plate embedded with chips that allow it to detect connection frequencies without requiring a physical network. Nunoo (2013) describes a smartphone as a mobile device with distinctive features that differentiate it from traditional mobile phones. Igyuve, Akilla, Oluwakemi, and Agbele, (2018) also affirmed that the advent of the smartphone started in 1993 when IBM lunched 'The Simon, which was followed by the Blackberry. The second phase commenced in 2007 when Apple launched the iPhone, marking the first smartphone designed for mainstream consumers, soon followed by Google's Android devices. In order to attract consumers, features such as audio, video, internet access and chatting were introduced and the price also began to reduce. The last phase is characterised by several system upgrades in Apple iOS, Android and blackberry OS operating systems.

The introduction of smartphones has significantly influenced various aspects of daily life. Today, most activities involve smartphone usage. Nuhel (2021) highlights that smartphones are utilized from the start of the day until bedtime, serving functions such as setting alarms, purchasing goods and services, booking appointments, communication, and recreation through gaming and social media. In modern society, Smartphones have evolved into essential tools for professionals across various fields. In Nigeria, the smartphone internet penetration rate stands at approximately 37.3% of the total population (Sasu, 2024).

Understanding Smartphone Photography

The evolution of photography has shifted significantly with the integration of cameras into smartphones, reducing dependence on professional photographers for capturing images. Smartphone photography allows individuals to take their own pictures, including selfies, leading to discussions on whether this development poses a threat to professional photography or fosters its growth (Brako-Hiapa & Danso, 2020).

Smartphone photography refers to capturing images using a built-in smartphone camera. The increasing influence of mobile photography has led manufacturers to enhance phone cameras rather than focus on standalone cameras (Halty, 2016). Supporting this viewpoint, Nuhel (2021) emphasizes that smartphone cameras have become highly sophisticated, capable of producing sharp, high-resolution images comparable to those taken with professional cameras. A crucial point of discussion is the declining preference for printed photographs. Many individuals no longer prioritize photo printing, impacting the commercial photography industry. In contrast to the past, when framed pictures and family albums held sentimental value, today's digital images are often stored electronically.

Mellie (2020) and Saragadam (2018) argue that while digital images are important, they lose their sentimental and aesthetic value when merely stored on USB drives, DVDs, or computers. They assert that printed photographs hold a unique, tangible significance. On the other hand, Saeed and Hassan (2020) note that printed photos are susceptible to damage from fire, water, and aging, whereas digital copies can be preserved indefinitely. Despite concerns that smartphone photography may undermine the photography industry, Nuhel (2021) believes that without smartphones, many individuals would not have access to photographs, leading to the loss of personal and historical memories.

The convenience and Compatibility of smartphone photography

Compatibility is the ability of the functions of a technology to satisfy the perceived expectations of users, which makes people to adopt a given technology, (Tunmibi, Aregbesola and Asani. 2015). Smartphones photography takes place everywhere and at every given event as it's always with the user and it's convenient to carry along at all times. According to Fatimi (2021), the use of dedicated cameras is undeniably declining due to their large size, heavy weight, and the inconvenience of carrying additional equipment. As a result, choosing a digital camera has become less practical compared to the numerous benefits of smartphones. Fatimi (2021) also asserts that smartphones are not only accessible and reliable for capturing images but also offer the advantage of instant sharing with others.

Smartphone Photography: Ease of usage on social media

Visual interaction has become the order of the day. People don't want to waste time typing words to express their views as expressing themselves through photographs in conversations catches more attention of audience and communicates the deep feelings of heart. People now use photographs to convey massages, tell their story, create bond, keep memories, market their products, foster propaganda and create social change through the various social media handles (Germen, 2014).

According to Brako-Hiapa, and Danso, (2020), The integration of digital cameras into mobile phones has simplified visual communication, allowing smartphone users to share digital photographs effortlessly. Unlike traditional photography, it eliminates the need for film development and processing, enabling instant capturing, editing, and sharing of images. Some professional photographers who use smartphones believe that social media has significantly boosted their business, particularly in terms of exhibition and visibility. Instead of exhibiting their works in galleries or via print publications, photographers now rely massively on social media advertisement and promotion.

Effectiveness and efficiency of smartphone Photography

Since the smartphone camera is an inbuilt device, everyone that purchases a smartphone automatically owns a camera. According to Igyuve, Akilla, Oluwakemi, and Agbele, (2018), one can easily purchase a camera mobile phone with an average price of just ₦80,000. The smartphone owner can easily take selfie or ask a neighbor to capture him/her. According to Agency Report (2019), a respondent who uses a smartphone stated that taking photographs with a smartphone is preferable, as it is more cost-effective and less stressful compared to hiring a professional photographer

A photographer, in response to an interview, explained that smartphone users do not necessarily prefer using their phones for photography due to camera quality but rather for the convenience of instant sharing on social media. However, when they require high-quality photos for special occasions such as birthdays and pre-wedding shoots, they still seek professional services at photography studios. (Agency Reports, 2019).

The cost of professional photography varies significantly, as professional photographers charge different rates based on their level of expertise, the type of project, and the location (Viscorner.com, 2022).

Although scholars have not extensively explored the relationship between the cost of professional photography and the demand for such services among smartphone users, this remains a crucial concern for the modern commercial photography industry.

The concept of Commercial photography

The professional photographer had always been at the forefront of photography, the reason might be that camera was rare. Both in public, private and social functions, such as churches, schools, marriages, political campaigns to mention but a few, demanded the service of commercial professional photographers. Companies, both government and non-government institutions employed photographers and depended on their photographs to enhance adverts and stories. This was because their services were peculiar and required technical skills. The commercial photographers were known as the first source of information, conveyors of the true evidence of incidences, architects of information disseminations and were the record keepers.

Low Patronage, Profitability and Performance of commercial photography

Customer patronage is determined by both the individual purchases made by customers and the overall sales volume recorded by a business. (Kenneth, Miebaka and Eziirim, 2015). When a business experiences low patronage, its profitability decreases, leading to reduced overall performance. According to Ezeilo (2024), performance refers to the extent to which a firm

achieves or falls short of its goals and objectives. The desire to be committed to a firm due to its service quality or perceived service quality is what gives rise to patronage, (Kenneth, Miebaka and Eziirim, 2015). Customers require a clear understanding of the quality of photographs offered to ensure they receive high satisfaction for the value they pay. However, professional photographers often struggle to price their work appropriately due to fears of losing customers to competitors. This challenge is exacerbated by the high level of competition in the industry and the growing prevalence of smartphone photography, which serves as a convenient alternative for many customers (Jayne, 2019).
As a result, commercial photographers may find it difficult to build customer loyalty, ultimately leading to reduced patronage and profitability. Ibewoye (2016), as cited by Kayode (2019). When patronage declines, automatically income will also decline and this leads to low performance.

2.2. Theoretical Framework

When a new technological innovation gains entrance into the market, various factors determine how and when individuals decide to adopt it (Davis, Bagozzi, & Warshaw, 1989; Brako-Hiapa & Danso, 2020). This study therefore adopted the Technology Acceptance Model (TAM) as introduced by Davis (1989) to explain the factors influencing individuals' acceptance or rejection of new technology. The TAM framework is particularly useful for organizations in predicting consumer demand for technological products and managing their supply accordingly (Davis, 1989). Moreover, TAM can be used by business managers to drive technology adoption among employees by assessing how beneficial and user-friendly the technology appears to them. This knowledge enables organizations to make well-informed decisions regarding technology implementation and product development that align with consumer needs (Davis, 1989).

The model highlights two major factors influencing the acceptance of technology: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, Bagozzi, & Warshaw, 1989). Perceived usefulness refers to how much a user believes that adopting a technology will enhance productivity and efficiency. Meanwhile, perceived ease of use describes the level of effort required to operate the technology, meaning how intuitive and user-friendly it is (Davis, 1989).

In Nigeria, the smartphone market has seen substantial growth, with internet subscriptions reaching around 84 million as of June 2022, a figure projected to rise to 117 million by 2027 (Sasu, 2024). A key factor driving smartphone adoption is the convenience it offers for photography. Unlike DSLR cameras, which require specialized skills, smartphones enable users to capture high-quality digital images effortlessly. The TAM framework explains how this ease of use has led to an increasing preference for smartphone photography over traditional commercial photography.

Additionally, TAM provides insight into the benefits driving smartphone photography adoption. These include easy integration with social media platforms, enhanced visual communication, and a cost-effective way for businesses to advertise to a large audience. As a result, TAM effectively illustrates the economic advantages of smartphone photography for both everyday users and professional photographers.

This study adopts TAM because it is well-suited to explaining the connection between smartphone photography adoption and its impact on the patronage of commercial photography in Nigeria. By applying this model, the study aims to provide a deeper understanding of how technological advancements in photography influence consumer behaviour and industry dynamics.

2.3 Empirical Framework

In 2020, Suite48Analytics conducted a survey among 881 professional photographers, primarily in Europe and North America, on the use of smartphones alongside standalone cameras for photography. The study revealed that 13% of professional photographers capture half or more of their professional photos using smartphones, while 64% use smartphones for non-professional photography. The findings indicate that professional photographers are increasingly adopting smartphones for official photography. Around the same period, Brako-Hiapa and Danso (2020) from the Department of Graphic Design Technology at Takoradi Technical University, Ghana, conducted a qualitative study on the impact of smartphone photography on professional photography. The research engaged professional photographers using various categories of digital cameras on the university campus. It focused on examining their experiences in adopting smartphones alongside their professional DSLR cameras. The study revealed that all participants owned a smartphone and used it to update their portfolios on social media to attract viewers. Regarding training, participants stated that no formal training was required to use smartphones for photography; instead, they experimented by taking multiple photos to improve their understanding. However, the majority indicated that they had undergone some level of formal training before being able to use DSLR cameras effectively. In terms of patronage, the study found that since the rise of smartphone photography, people no longer hire professional photographers for every occasion, reserving their services for specific events such as weddings and pre-birthday studio shoots. However, the demand for passport photographs remains high. Another important aspect of their findings is that professional photographers now face competition from smartphone photographers, making it more challenging for them to carry out their work effectively.

Kayode (2019) conducted a quantitative study on the impact of mobile photography on outdoor commercial photographers at the Federal University of Technology, Akure, Nigeria. Employing a descriptive research approach, he distributed a structured questionnaire to a randomly selected sample comprising 294 staff members, 267 students, and 13 photographers. The data collected were analyzed using proportion tests and percentage calculations. The findings indicated that a significant number of individuals within the university community utilize their smartphones for capturing both personal and group images. Additionally, the study revealed a decline in the demand for printed photographs, resulting in decreased patronage for campus-based commercial photographers. This decline was further corroborated by photographers, who reported fewer client engagements and reduced earnings. Consequently, many photographers have started modifying their service offerings, as suggested by the study, to sustain their businesses and maintain relevance within the campus market.

Rafiqi (2022) in a descriptive qualitative study titled *An Overview of Current Commercial Fashion Photography*, examined the presence of smartphones and their impact on commercial

photography, particularly in fashion photography. The study found that the presence of smartphones makes everyone able to become a commercial fashion photographer, which makes the role of a commercial fashion photographer even more questionable. The study recommends that today's commercial fashion photographers need to have out of the box ideas which are the qualities of ideas and concepts that distinguish them from other commercial fashion photographers. Although the need for tools in the process of creating photography today can be replaced with smartphones, the quality of ideas and concepts is something that is not necessarily owned by every commercial fashion photographer. This supports Nguyen's (2018) perspective, whose thesis explores the evolving perception and photographic applications of smartphone cameras in photography at Turku University of Applied Sciences. The target group of the study consists of adults aged 20 and above. The research was conducted using both quantitative and qualitative methods. The findings suggest that the vast majority of respondents, in their responses to the administered questionnaire, view the phone camera as a tool for capturing quick and spontaneous content while also acknowledging its limitations in quality of photos produced by it. The study revealed that the constant accessibility of a smartphone camera is the key reason why people would more often choose to use it over the big and heavy dedicated camera. Though the respondents also agreed that smartphone cameras does not seem to be associated with professionalism when it comes to fine photography. Their survey also found that most people agreed that they would need an advanced camera or a professional photographer for occasions of which the photos really matter, for reasons such as important memories, publishing, professional projects, etc. On the use of smartphone images on the social media, majority of respondents use their smartphone images on the social media, where Instagram is the most used as revealed in the research.

Elogie, Ikenye, and Idubor (2015) conducted a qualitative study on the factors influencing smartphone adoption among undergraduate students at Ambrose Alli University, Ekpoma, Nigeria.The research covered six out of the eleven faculties and it was discovered that 78.8% of participants owned smartphones. This shows that majority of students in higher institutions of learning owns smartphone. Similarly, Fatimi (2021) employed a qualitative task-based research method to examine the differences in photographs taken by adolescents using both smartphones and digital cameras. Through data collected via an observational survey, the study found significant differences between images captured with a smartphone camera and those taken with a digital camera. However, the findings emphasized that the photographer, rather than the device, ultimately determines the quality of a photograph.

Mengi (2020) studied the impact of cameras on the evolution of a new era in smartphones using qualitative analysis and an observational approach. The sample consisted of eight mobile manufacturing companies and their developments in mobile camera technology. The study revealed that mobile phone cameras have the potential to introduce new creative and simplified photography techniques, enabling individuals to express their thoughts through images.

Gye, (2007) looked at the current social uses of personal photography and the impact that camera phones have on these uses. He examined the ways in which camera phones are enabling new modes of personal photography, which will extend the role that photographs play in our lives. He found that mobile camera phones are having an impact on the established ways in which we record and archive our personal and group memories, create and maintain social relationships and express and present ourselves to our friends, family and the world. He opined

that as camera resolutions improve and as users become more comfortable sharing their photographs through MMS, photosharing sites and camera technologies such as Bluetooth, we will undoubtedly see many more changes to the ways in which we undertake these activities.

This literature review reveals that limited research has explored the use of smartphones for capturing images and its impact on the declining patronage of commercial photographers in Nigeria. Research in this area remains relatively nascent.

Therefore, this study aims to validate existing findings on smartphone photography, image sharing, and their influence on the low patronage of commercial photographers. Additionally, the researcher will further examine the effectiveness and efficiency of smartphones in relation to their impact on commercial photography. Robust empirical research is essential to fully understand the current and potential impacts of camera phone technology on our culture and daily lives. Therefore, this study will contribute to the body of knowledge, helping professional photographers develop strategies to address the growing competition from smartphone photography, which is significantly impacting the professional photography industry.

3. METHODOLOGY

This study employed a survey research design, utilizing primary data collection to achieve its objectives. The research focused on photographers and smartphone users in the Yenagoa area of Bayelsa State, Nigeria. With an estimated population of 500 smartphone users and photographers in Yenagoa, a simple random sampling technique was used, and the sample size of 222 was determined using Taro Yamane's (1967) formula.

Data was primarily collected through a well-structured questionnaire based on a 4-point Likert scale, with response options ranging from "strongly disagree" to "strongly agree." The questionnaire was distributed to relevant respondents to gather the necessary data.

The researchers employed content validity measures to ensure that the questionnaire items were relevant to the study's objectives. To assess consistency in respondents' answers, a test-retest reliability method was also utilized. The validity and reliability tests confirmed that the research instruments were both valid and reliable.

To further establish reliability, the study used Cronbach's Alpha, which yielded a 99% reliability score—well above the minimum required threshold of 70%. Additionally, multiple linear regression analysis was conducted using SPSS to test the hypotheses, examine relationships between variables, and draw conclusions.

Reliability Statistics

Cronbach Alpha	Cronbach's Alpha Based on Standardized Items	No of Items
0.989	0.990	15

3.1 Model Specification

The research adopted a Multiple Regression Model, specified as follows:

LPCP=f(SPS,SPP,SEE) ..... (i)

Where:

LPCP = Low patronage of commercial photographers
SPS = Smartphone picture snapping
SPP = Smartphone picture posting

3.1.1 The relationship between smartphone picture snapping (SPP) and the low patronage of commercial photographers (LPCP) is modeled as follows:

SPP EQUATION

LPCP = f (ESP, CSP, SC, SCQ) ..... (ii)

The econometric or testable model is expressed as:

$LPCP = \alpha 0+\alpha_1 ESP+\alpha_2 CSP+\alpha_3 SC+\alpha_4 SCQ+ei$..... (iii)

Where:

LPCP = Low patronage of commercial photographers
ESP = Ease of smartphone photography
CSP = Convenience of smartphone photography
SC = Smartphone compatibility
SCQ = Smartphone camera quality
α_0 = Intercept
$\alpha_1, \alpha_2, \alpha_3, \alpha_4$ = Parameter estimates (showing the effect of each independent variable on LPCP)
e_i = Error term

3.1.2. Smartphone Picture Posting (SPP) and the Low Patronage of Commercial Photographer (LPCP) is modeled as follows:

SPP Equation

LPCP = f (UPP, SPA, SNR, SIPS)…….....(iv)

The econometric or testable model is expressed as:

$LPCP = bo + b_1 UPP + b_2 SPA + b_3 SNR + + b_4 SIPS + ei$…… (v)

Where :

LPCP = Low patronage of commercial photographer
UPP = urgency of picture posting
SPA = smartphone product advertisement
SNR = smartphone news reporting
SIPS = smartphone internet picture storage
b_0 = intercepts
b_1, b_2, b_3, b_4 are the parameter estimates (showing the effect of each independent variable on LPCP)
e = Error Term

3.1.3. Smartphone effectiveness and efficiency (SEE) AND low patronage of commercial photographer

SEE Equation

LPCP = f (SCE, SPD, SSPS, SA)……..... (vi)

The econometric or testable model is expressed as:

LPCP = co + c_1 SCE + c_2 SPD + c_3SSPS + + c_4 SA +ei…… (vii)

where:

$LPCP_t$ = Low patronage of commercial photographer
SCE = smartphone cost effectiveness
SPD = softcopy picture demand
SSPS = smartphone sufficient picture storage
SA = smartphone accessibility
c_0 = intercepts
c_1, c_2, c_3, c_4 are the parameter estimates
e = Error Term

3.1.4. DESCRIPTION OF VARIABLES

1. Low patronage of commercial photographer (LPCP) is the dependent variable and has a functional relationship with Smartphone photography (SPY). Smartphone photography (SPY) is proxied by Smartphone Picture Snapping (SPS), Smartphone Picture Posting (SPP) and Smartphone Effectiveness and Efficiency (SEE) which served as the independent variables in the model.
2. Smartphone picture snapping (SPS) is a proxy of smartphone photography (SPY). SPS is further decomposed into ease of smartphone photography (ESP) convenience of smartphone photography (CSP), smartphone compatibility (SC), and Smartphone camera quality (SCQ). These variables were used to test the first hypothesis.
3. Smartphone Picture Posting (SPP) is also a proxy of Smartphone Photography (SPY) decomposed into Urgent Picture Posting (UPP), Smartphone Product Advertisement (SPA) Smartphone News Reposting (SNR) and Smartphone Internet Picture Storage (SIPS). These variables were used to test the second hypothesis.
4. Smartphone Efficiency and Effectiveness (SEE) is another independent variable which is decomposed into Smartphone Cost effectiveness (SCE), Softcopy picture durability (SPD), Smartphone Sufficient Picture Storage (SSPS) and smartphone accessibility (SA). These variables were used to test the second hypothesis.

   The questionnaire was structured to determine whether smartphone photography (SPY) has an impact on the low patronage of commercial photographers (LPCP).

4. DATA ANALYSIS AND INTERPRETATION OF RESULT

Table 4.1:
Multiple Regression Results on Smartphone Picture Snapping (SPP) and Low Patronage Of Commercial Photography (LPCP) were used to test the first hypothesis.

Coefficients

Variable		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.073	.074		-.992	.323
	ESP	-.006	.050	-.005	-.122	.903
	CSP	.289	.061	.303	4.755	.000
	SC	.627	.060	.578	10.458	.000
	SCQ	.101	.042	.121	2.432	.016

R Square	0 .930	F-statistic	604.592
Adjusted R Square	0 .928	Prob(F-statistic)	0.000
Std. Error of the Estimate	0 .20973		
Sum of Squares Regression	106.379		
Sum squared Residual	8.006		
R	0 .964[a]		
Mean square	26.595		
Dependent Variable			

a. Dependent Variable: LPCP

Source: SPSS Statistics 22 output from study data 2024,

Table 4.1 above presents the regression results showing the impact of smartphone photography on the decline in patronage of commercial photographers. The results indicate that smartphone photography (SPY), represented by smartphone picture snapping (SPS), when regressed with convenience of smartphone photography (CSP), smartphone compatibility (SC), and smartphone camera quality (SCQ), exhibited a significant positive relationship with the patronage of commercial photographers. The results showed that the convenience of smartphone photography (CSP), smartphone compatibility (SC), and smartphone camera quality (SCQ) have positive effects of 30.3%, 57.8%, and 12.1%, respectively, on the low patronage of commercial photographers, with probability values of 0.000, 0.000, and 0.016. This statistically implies that,

1. As the convenience of smartphone photography (CSP) increases, the low patronage of commercial photographers rises by 30.3% in the study area, and vice versa.
2. As smartphone compatibility (SC) increases, the low patronage of commercial photographers rises by more than half in the study area, and vice versa.
3. As smartphone camera quality (SCQ) increases, the low patronage of commercial photographers rises by 12.1% in the study area, and vice versa.

4. As the ease of smartphone photography (ESP) decreases, though insignificantly, the low patronage of commercial photographers increases by 12.2% in the study area, and vice versa.

The regression results show that the F-value of 604.592, with a significance value of 0.000 ($p < 0.05$), indicates that the overall model is statistically significant. This suggests that the independent variables collectively explain a significant portion of the variation in the dependent variable, making the model a good fit for the study.

Furthermore, the R-square (R^2) value of 0.930 suggests that 93% of the variation in the low patronage of commercial photographers in the study area is explained by the independent variables. This implies that a one-unit increase in the independent variables accounts for a 93% change in the dependent variable, while the remaining 7% is attributed to external factors not captured in the model**.**

The adjusted R-square (0.928) further supports the model's robustness, demonstrating a strong explanatory power in predicting changes in the dependent variable

Based on these findings, the null hypothesis is rejected**.** Consequently, it can be concluded that Objective 1**,** which seeks to examine the effect of smartphone photography—proxied by smartphone picture snapping on the low patronage of commercial photographers, has been successfully achieved.

Table 4.2
Multiple regression results on 'Smartphone Picture Posting and the Low Patronage of Commercial Photographers' were used to test the second hypothesis

Coefficients

Variable		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.317	.128		2.489	.014
	UPP	.059	.099	.058	.591	.555
	SPA	.740	.191	.780	3.879	.000
	SNR	.052	.067	.058	.774	.440
	SIPS	-.007	.202	-.008	-.035	.972

R Square	0.769	F-statistic:	151.783
Adjusted R Square	0.764	Prob(F-statistic)	0.000
Std. Error of the Estimate	0.37364		
Sum of Squares Regression	0.84.762		
Sum squared Residual	0.25.409		
R	0.877		
Mean square	0.21.190		
Dependent Variable	LPCP		

Source: SPSS Statistics 22 output from study data 2024

The coefficient table 4.2 above presents the regression results on the effects of smartphone picture posting on the low patronage of commercial photographers in Bayelsa State. Three variables of smartphone picture posting (SPP)—urgency of picture posting (UPP), smartphone product advertisement (SPA), and smartphone news reporting (SNR)—exhibit a positive effect on the low patronage of commercial photographers (LPCP). Specifically, the coefficients for SPA and SNR are 0.74 and 0.052**,** respectively, indicating a positive influence on the low patronage of commercial photographers. The coefficient of urgency of picture posting (UPP) has a positive effect showing 0.59 insignificant influence on low patronage of commercial photographer (LPCP). On the contrary, smartphone internet picture storage (SIPS) has a negative effect on patronage of commercial photography (PCP) with a coefficient of 0.007. This means that one percent increase in urgency of picture posting (UPP), smartphone product advertisement (SPA), causes 70% increase in the low patronage of commercial photographer (LPCP) though the result is not statistically significant.
Furthermore, the results reveal that the standard error value of the predictor variable, smartphone product advertisement (SPA), is lower than its beta coefficient. Additionally, SPA is the only variable that is statistically significant, with a p-value of 0.000, which is below the 0.05 significance threshold at a 95% confidence level**.** This suggests that smartphone picture posting (SPP), and by extension smartphone photography, has a significant impact on the patronage of commercial photographers in the study area.

The F-test value of 151.783 with a significance level of 0.000 (<0.05) confirms that the overall model is statistically significant in explaining the relationship between the dependent and independent variables. The R^2 value of 0.769 indicates that 77% of the variation in the low patronage of commercial photographers (LPCP) is explained by smartphone picture posting (SPP) and its components urgency of picture posting (UPP), smartphone product advertisement (SPA), smartphone news reporting (SNR), and smartphone internet picture storage (SIPS) while the remaining 23% is attributed to other external factors. The adjusted R^2 of 0.764 further supports the model's strong explanatory power.

Based on these results, smartphone photography significantly impacts the declining patronage of commercial photographers in Bayelsa State, Nigeria**.** Therefore, the null hypothesis is rejected, and Objective 2 of the study, which examines the effect of smartphone picture posting on the low patronage of commercial photographers, is successfully achieved**.**

Table 4.3
Multiple Regression results on "Smartphone effectiveness and efficiency and the low patronage of commercial photographer" was used to test the third hypothesis.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.253	.085		2.973	.003
	SCE	.567	.055	.624	10.246	.000
	SPD	.455	.066	.475	6.908	.000

SSPS	-.167	.078	-.199	-2.148	.033
SA	.064	.086	.075	.745	.457

R Square	0. .883	F-statistic:	342.651
Adjusted R Square	0. .880	Prob(F-statistic)	0.000
Std. Error of the Estimate	0. .23387		
Sum of Squares Regression	74.965		
Sum squared Residual	9.954		
R	0. .940		
Mean square	18.741		
Dependent Variable	LPCP		

Source: SPSS Statistics 22 output from study data 2024

The regression analysis examines the impact of smartphone effectiveness and efficiency on the low patronage of commercial photographers (LPCP)**.** The results indicate that smartphone cost-effectiveness (SCE) and softcopy picture demand (SPD) have a significant positive effect on LPCP, with coefficients of 0.567 and 0.455**,** respectively, at an alpha level better than 0.1**.** Conversely, smartphone accessibility (SA) has a positive but statistically insignificant effect **(**0.64, p = 0.457**).**

However, smartphone sufficient picture storage (SSPS) exhibits a significant negative effect on LPCP, with a coefficient of -0.167, contradicting prior expectations. These findings suggest that a 1% increase in SCE, SPD, and SA**,** along with a 1% decrease in SSPS**,** results in a 57%, 46%, 6%, and 17% increase in LPCP**,** respectively The regression analysis confirms that the overall model is statistically significant **(**F = 342.651, p < 0.05**),** indicating a strong explanatory relationship between the dependent and independent variables. The R^2 value of 0.883 suggests that 88% of the variation in the low patronage of commercial photographers (LPCP) is accounted for by the predictor variables, with the adjusted R^2 of 0.880 reinforcing the model's robustness**.**

These findings demonstrate that smartphone effectiveness and efficiency significantly influence the declining patronage of commercial photographers in Bayelsa State, Nigeria**.** The null hypothesis, which states that smartphone effectiveness and efficiency have no effect on the low patronage of commercial photographers, is rejected**.** This confirms that smartphone effectiveness and efficiency significantly impact the decline in commercial photography patronage**.** Thus, Objective 3 examining this effect has been successfully achieved.

5.1 Discussions of Findings

1. **Impact of Smartphone Picture Snapping on Low Patronage of Commercial Photographers**

   The study establishes **a** statistically significant positive relationship between smartphone picture snapping and the low patronage of commercial photographers in Yenagoa, Bayelsa State, Nigeria. This aligns with Kayode (2019)**,** who found that most smartphone users prefer taking selfies, reducing their reliance on professional photographers. Additionally, Kayode (2019) noted that smartphone photography innovations on campuses have disrupted commercial photography businesses.

Similarly, Saeed and Hassan (2020) confirmed that the increasing accessibility of smartphones has transformed users into photographers, reducing the demand for professional photography services.

2. **Impact of Smartphone Picture Posting on Low Patronage of Commercial Photographers**
   The study further reveals that smartphone picture posting on social media is positively and statistically significant in reducing the patronage of commercial photographers in Bayelsa State, Nigeria. This suggests that as more individuals post pictures using their smartphones, the demand for professional photography declines.
   This finding is consistent with the study by Brako-Hiapa and Danso (2020). who noted that the integration of digital cameras into smartphones has simplified visual communication, allowing users to share digital photographs instantly without requiring film development or processing. Additionally, Nguyen (2018) found that the increasing use of smartphone photography for social media engagement has contributed to the decline in demand for commercial photography services.
   This finding emphasizes the role of digital and mobile photography in reshaping consumer behavior. The ease of capturing, editing, and instantly posting pictures has reduced the necessity for professional photo sessions, further diminishing the relevance of traditional photography businesses in the digital age.
3. **Impact of smartphone photography effectiveness and efficiency on the low patronage of commercial photographers.**
   Findings revealed that an increase in smartphone photography efficiency and effectiveness leads to a corresponding decline in the patronage of commercial photographers in Bayelsa State, Nigeria. This indicates that factors such as softcopy picture usage, sufficient storage space, ease of accessibility, and compatibility contribute significantly to the reduced demand for commercial photography services. Although no prior empirical studies specifically linking smartphone photography efficiency and low patronage of commercial photographers were found at the time of this research, several scholarly opinions support these findings. Fatimi (2021) asserted that dedicated cameras are becoming less common due to their bulkiness and inconvenience, making smartphones a more practical alternative. Furthermore, smartphones not only provide accessibility and ease of use but also enable instant image sharing. The growing preference for softcopy images has further reduced the demand for printed photographs, as users either take their own pictures or opt for digital copies from photographers at a lower cost.

5.2 Conclusion and Recommendations

The central objective of this study was to empirically discover the impact of smartphone photography on the low patronage of commercial photographers. The business of commercial photography is presently competing intensely with smartphone photographers as the installation of camera into smartphone has made it possible for all to photograph themselves conveniently. It was discovered that smartphone photography is immensely contributing to the recent low patronage of commercial photographers in Yenagoa, bayelsa state. Smartphone picture snapping, smartphone picture posting and smartphone efficiency and effectiveness were all discovered to be positively related to low patronage of commercial photography. However, it is very important that photographers take decisive measures to contend with this challenge

to avoid their source of income crumbled into extinction by the activities of smartphone photography. It is in the light of the above findings that the study made the recommendations below:

i. The key and most unique edge commercial photographers have over smartphone user is the knowledge of how to see. Therefore professional photographers should use quality time to innovate and see beyond the ordinary smartphone photographer who does not possess the spirit of the image but rather is out to catch a moment fun while snapping pictures.
ii. Photographers should leverage mobile applications and social media platforms to enhance their visibility and accessibility. By creating an online portfolio to showcase their work, they can connect with a broader audience, particularly those who actively engage with picture postings on social media.
iii. Continuous training and skill development are essential for commercial photographers to stay competitive. They should learn to use emerging photography accessories, enhance their creativity, and add more value to their services. By adopting cost-effective and efficient photography practices, they can improve their business performance and remain relevant in an evolving digital landscape.

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