



STRATEGIC ADVANTAGE OF SERVICE DIFFERENTIATION ON THE COMPETITIVE SUSTAINABILITY OF TELECOM FIRMS IN NIGERIA

Ayansola A. Ayankola,

Bamidele S. Adeleke¹

Department of Marketing,
Faculty of Management Sciences,
Ladoke Akintola University of Technology,
Ogbomoso, Oyo State, Nigeria

Abstract:

This study examined the strategic advantage of service-differentiation on the competitive sustainability of firms in the Nigerian telecommunication sector. The specific aims was to ascertain the effect of excellent service-quality on the market share of telecom firms in Nigeria; and as well assess the effect of service differentiation on the Nigeria's telecommunication firms' public perceived image. Survey design was utilized and data was gathered through a closed-end structured questionnaire designed on 5-point Likert Scale. The main source of data was primary source and the target population consisted of staff of four main GSM telecomm firms (MTN, GLO, 9Mobile, and AIRTEL) in South west part of Nigeria. A sample size of 207 was drawn from the study population of 488. The formulated hypotheses were tested through Z-test statistics and Simple Linear Regression Coefficient at 0.05 significance level. The findings revealed that excellent service-quality impacted positively (i.e. increased) on the market share of telecommunication firms in Nigeria. The study further shows that service differentiation positively affected (i.e. enhanced) on the Nigeria's telecommunication firms' perceived image. It was concluded that there is a strategic advantage of service-differentiation on competitive edge and sustainability of Nigeria telecom firms. The study recommends that the Nigerian telecom organizations should concentrate on providing customers with a lifetime delivery value in order to continue to enjoy survival and effective operations in the sector.

Keywords: telephone services; service differentiation; competitive edge; market dominance

JEL: L80, L90, L96

¹ Correspondence: email basadeleke@gmail.com

1. Introduction

The recent business operations have been characterized by competitiveness which has been the major focus of corporate strategy studies. Competitive strategy is intensively discussed as a corporate competitive advantage and as the most competitive advantage (Porter, 1980; 2008). Since then, several scholars dedicated a great part of previous works to describe different procedures and concepts about environmental dynamics and the challenges created for corporate and for business competitiveness, based on Porter's five force model (Wright 2010; Hitt, Ireland and Hoskisson 2012; Aaker, 2011; Hill and Jones 2008; Hinings and Greenwood 2009; Certo and Peters, 2013).

According to these authors (Aaker, 2011; Hill and Jones 2008; Hinings and Greenwood 2009; Certo and Peters, 2013), the forms of competitiveness and their sustainability come from their ability to develop strategies that can generate value which is difficult to be imitated or that is costly. Chandler (2009) stated that competitiveness comes from the ability to create economy of scale and economy of scope. There is widespread consensus in the strategy literature that a driving force behind firm growth is the firm's resources and capabilities that can be deployed to new market opportunities. In particular, scholars have long argued that firms should distinguish and differentiate their want-satisfying offers against the rivals (Wernerfelt and Montgomery, 2008).

Generally, differentiation strategy seeks to provide products or services that offer benefits that are different from those of competitors and that are widely valued by buyers (Johnson, Scholes & Whittington, 2008). The aim of using differentiation strategy is to achieve competitive advantage. There are different differentiation strategies for the company to choose from, it can be, product differentiation, service differentiation etc (Kotler & Keller, 2014). Further on, the company can choose to have a unique marketing mix or retail mix. The retail mix consists of merchandise, price, advertising and promotion, customer services and store design. (Fairhurst & Moore, 2013). Hitt, Ireland & Hoskisson, (2012) state that a differentiation strategy must be based on two key factors: the strategic customers, the company has to identify their needs and what they will value, and also on their key competitors, to be different, the company has to identify its competitors.

The Nigeria telecomm sector in the recent has been very fierce with firms competing for shares and customers base. The four licensed firms MTN, GLO, 9MOBILE and AIRTEL have continued to wage price and promotion wars against each other. MTN introduced excellent services products to attract more customers. The rival firms GLO and 9MOBILE retaliated by introducing new products and by cutting down further the prices of its products. The increasing competition and growth in the sector is a clear indication of the operators' increasing focus to offer reliable and innovative for subscribers and customers.

This competition wars in terms of promotion and price have made most of Nigerian firm to undermine the relevance of service-offering differentiation as a strategic thought that needs to be exploited. This has affected the survival and operation of many of these firms since consumers continued to complaint about poor service and lack of reliable offers. This has impinged on the market share and has affected the perception of the public's about these firms. Hence, there is a pressing need to undertake a study that will unravel the rationale of service differentiation on competitive edge in the Nigeria telecommunication sector. To this end, this study;

- a) Examines the effect of excellent service-quality on the market share of telecommunication firms in Nigeria; and
- b) Determines the effect of service differentiation on the Nigeria's telecommunication firms' publics' perceived image.

2. Brief Review of Literature

2.1 Conceptual Review

A. Differentiation as a Competitive Marketing Strategy

Differentiation is one of the key business strategies (Allens & Helms, 2006). According to Koskela, (2000), a firm differentiates itself from competitors if it can be unique at something that is valuable to customers. Murphy (2011) posits that differentiation occurs when a firm tries to make the product/service more appealing to the customer than the competition thereby potentially commanding a higher price.

Differentiation consists in differentiating the product or service offered by the firm, in other words, creating something that is perceived industry-wide as being unique. Differentiation may be achieved in various ways, for example through design, brand image, technology, features, customer service, and dealer network. Bases of differentiation may be sorted into three categories (Allens & Helms, 2006). Firstly, to implement differentiation, a firm may focus directly on product (or service) attributes, i.e. product features, product complexity, the timing of product introduction, or location. Secondly, a firm may focus on the relationship between itself and its customers, for example through product customization, consumer marketing and product reputation. Finally, differentiation may be implemented by focusing on the linkage within or between firms, which includes linkage within functions of a firm, linkage with other firms, product mix, distribution channels and service support. Ideally, the firm should differentiate itself along several dimensions (Murphy, 2011).

Thus, differentiation is concerned with creating something that is perceived as unique by buyers Porter (2008) opined that differentiation strategy may be explained based on differentiation through technology, brand, positioning, design or innovation. Differentiation strategy involves the development of strengths that can give a firm a differential performance advantage above other competitors. An example of this is a firm that competes by having the most inclusive branch network open at customers'

convenient time and is able to cut down waiting time and speed up service delivery or one that is able to cut down lending time without securities.

A firm adopting differentiation strategy tries to differentiate its products or services from competitors by using unique attributes which are widely valued by buyers. Uniqueness can be achieved through service/product innovations, superior service, creative advertising, better supplier relationships leading to better services, or in an almost unlimited number of ways. With unique attributes, a firm can charge premium prices for the products and services.

Differentiation has been adopted in increasing numbers of industries, specifically in industries that need quality for success Bacanu (2010). A differentiation strategy is also based upon persuading customers that a product is superior in some way to that offered by competitors. In differentiation strategies, the emphasis is on creating value through uniqueness, as opposed to lowest cost.

A differentiation strategy occurs when a firm gains an unprecedented position within the sector of operation by differentiating its products or services. Barney and Hesterley (2006) assert that the rarity of a differentiation strategy depends on the ability of individual firms to be creative in finding new ways to differentiate their products. As rivals try to imitate these firms' last differentiation move, the creative firm will already be working on new moves and therefore, remain one step ahead of their competitors.

Baum, Locke and Smith (2001) also suggest that firms implementing differentiation strategies like innovative and high quality products achieve the highest growth. Some problematic areas of differentiation include the difficulty on the part of the firm to estimate if the extra costs entailed in differentiation can actually be recovered from the customer through premium pricing. Moreover, successful differentiation strategy of a firm may attract competitors to enter the company's market segment and copy the differentiated product Lynch (2003). Mosey (2009) posits that manufacturing firms which repeatedly introduce innovative new products end up opening up new market niches, which is essential to their survival. Slater and Olson (2001) lament that the effectiveness of differentiation strategy depends on how well the firm can balance product benefits and product costs for the customer relative to the competitive offering. Moreover, Acquaah and Ardekani (2006) avert that differentiating firms are able to achieve competitive advantage over their rivals because of the perceived uniqueness of their products and service.

B. Service Differentiation

It is easier to differentiate products because their variables are tangible than services. But when the product cannot be differentiated, adding valued services, or improving their quality can be the key to competitive success. Services are processes which have six characteristics: Services are intangible. They are perishable and not transportable. They are produced and consumed simultaneously. They can differ from one customer to the other and they are co-produced by the customer. According to those characteristics, services have to be really well prepared they cannot be taken back or

modified. In services marketing, 7 P have to be combined in order to create the best service possible, according to Nargundkar (2006) they are:

1. Product, which regards the design of the service
2. Price, which is about the influences on pricing
3. Place, for the distribution channel and supply chain management
4. Promotion, which concerns the different types of medias which can be used
5. Process, which can determine the customer's satisfaction
6. People, who deliver the service
7. Physical evidence which means that services are intangible.

C. Service Quality

Service Quality' is a business administration term used to describe achievement in service. It reflects both objective and subjective aspects of service. The accurate measurement of an objective aspect of customer service requires the use of carefully predefined criteria. The measurement of subjective aspects of customer service depends on the conformity of the expected benefit with the perceived result. This in turn depends upon the customer's imagination of the service they might receive and the service provider's talent to present this imagined service.

A customer will have an expectation of service determined by factors such as recommendations, personal needs and past experiences. The expectation of service and the perceived service result may not be equal, thus leaving a gap. Ten determinants which may influence the appearance of a gap were described by Parasuraman, Zeithaml and Berry (2005):

1. Competence' is the possession of the required skills and knowledge to perform the service.
2. Courtesy refers to factors such as politeness, respect, consideration and friendliness of the contact personnel; consideration for the customer's property and a clean and neat appearance of contact personnel.
3. Credibility' refers to factors such as trustworthiness, believability and honesty. It involves having the customer's best interest at heart. It may be influenced by company name, company reputation and the personal characteristics of the contact personnel.
4. Security' represents the customer's freedom from danger, risk or doubt including physical safety, financial security and confidentiality.
5. Access' refers to approachability and ease of contact.
6. Communication' mean both informing customers in a language they are able to understand and also listening to customers. A company may need to adjust its language for the varying needs of its customers.
7. 'Reliability' is the ability to perform the promised service in a dependable and accurate manner.
8. 'Responsiveness' refers to the willingness of employees to help customers and to provide prompt timely service

An analysis of service quality literature suggests four underlying themes:

- a) It is more difficult to evaluate than quality of tangible goods.
- b) Evaluation of quality is not made solely on the outcome service; they also involve the evaluation of the process of service delivery (Parasuraman, Zeithamal & Berry, 2005).
- c) Service cannot be separated from the creator of service. These are created, consumed and dispensed at the same time.
- d) Although the services are intangible but through visualization, association, physical representation and documentation; intangibility of the services can be improved

D. The Concept of Market Share

Market share attraction models, which specify that a firm's market share is equal to the ratio of its "attraction" to the total attraction for all firms; have received increasing attention in recent years. However, there has been little research investigating the practical implications of such models. This study presumes that a game-theoretic analysis of the model which deduces the strategic implications of a Nash equilibrium solution to the model. Nash equilibrium captures the idea that players ought to do as well as they can give the strategies chosen by the other players. It is shown that these implications are consistent with previous empirical research in marketing and business policy.

Best (2009) defines market share as "the percentage of current market demand obtained by a business" and market share index as "a hierarchy of market share factors (such as awareness, availability, interest, intention to buy and purchase) that results in an estimate of the market share". According to Best (2009), gaining market share is reflected in a firm's marketing mix namely: (1) promotion strategies (2) product positioning strategies (3) price strategies (4) place strategies and (5) service strategies. A firm's market share is therefore reflected in a firm's strategic consideration of (1) creating awareness of its products and benefits (2) promoting its attractiveness, preferences and product benefits to customers (3) offering attractive service charges and benefits (4) aiming to provide services at every place and (5) providing satisfied services to its customers.

Best (2009) further contends that the product of these marketing mix expressed in quantifiable metrics reflects the market share index of the firm. In this study, the market shares of the various banks were obtained through secondary data, i.e. from consultancy report prepared by the Price Waterhouse Coopers (2008).

E. Perceived Image

Today's consumers have more choices for their financial needs than ever before. Technology globalisation has increased competition, and increased consumer mobility has dramatically changed the way people bank (Harwood, 2002). Many financial institutions are looking at branding techniques to differentiate themselves. Harwood

(2002) argues that branding, as a tool to build an image, is critical in the banking industry where all firms offer almost the same kinds of products. Hence, it is critical that banks have a comprehensive knowledge of customers' values, attitudes, needs and perceptions of various services the bank offers and the image which customers have about the bank itself (Kaynak, 1986). Accordingly, bankers must be able to build and manage their bank's image in order to clearly define the differences between their bank and its competitors. Bharadwaj (1993) also argue that services are highly intangible and are, therefore, high in experience and credence qualities. As a consequence, brand reputation is important as a potential competitive advantage. Alvarez (2001) therefore proposes that logic is no longer enough to sell the benefits of an intangible product or service, especially with commodity products and skeptical consumers. This situation calls for emotion or image to change the perception of the audience in any real or profound way. Furthermore, both Marthur (1988) also propose image as an alternative to product differentiation.

2.2 Theoretical Anchor: Internal Service Quality Model

This work anchored on internal service quality model developed by Frost and Kumar (2000). The model evaluates the dimensions, and their relationships which determine service quality gaps among internal customers (front-line staff) and internal suppliers (support staff) within a large service organization. The gaps are as follows:

- Internal gap 1: Difference in support staff's perception (internal supplier) of front-line staff's expectation (internal customers).
- Internal gap 2: Difference between service quality specifications and the service actually delivered resulting in an internal service performance gap.
- Internal gap 3: Difference between front-line staff's expectations and perceptions of support staff's (internal supplier) service quality. This is the gap which focuses on the front-line staff (internal customers).

Luk and Layton (2002) developed the traditional model of Parasuraman et al. (2005) by adding two more gaps. They reflect the differences in the understanding of consumer expectations by manager and front-line service providers and the differences in consumer expectations and service providers' perception of such expectations

3. Methods

Survey method was utilized and area of this study was Southwest, Nigeria. The states that make up south west are Lagos, Ogun, Oyo, Osun, Ondo and Ekiti. The population for this study comprised of management staff of the telecom in south-west states in Nigeria. The population of the staff was 488. A final sample size of 207 was drawn using Cronrath method. Primary source of data was the only method used and data was sifted through structured closed-end questionnaires that were self-administered. A reliability result of 0.89 was derived which indicated that the instrument is very reliable. Face and content validity were used to validate the instrument.

4. Results and Findings

A total of 207 two hundred and seven questionnaires were distributed to the respondents. 170 (82.1%) of the administered questionnaire were returned. This makes (82%) response rate upon which the analysis of this study is based.

4.1 Testing of Hypotheses

Two hypotheses were formulated and are tested below using z-test and regression.

Ho₁: Excellent service-quality cannot affect the market share of telecomm firms in Nigeria

Ha₁: Excellent service-quality would affect the market share of telecomm firms in Nigeria

Table 1a: One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Decisions on service quality & market share	170	22.1000	17.11243	2.11211

Table 1b: One-Sample Test

	Test Value = 0					
	Z	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Decisions on service quality & market share	11.17	169	.004	22.1000	16.3300	38.4300

Having analyzed the data from the questionnaire using one-sample z-test to examines if distinctive service-quality would affect the market share of telecommunication firms in Nigeria, the Tables 1a & b revealed that the z-test result shows the existence of significant result on the variables ($z = 11.17 > \text{at } p < 0.05$). The significant level was found to be 0.04, and due to this we reject the null hypothesis and accept the alternate one which *excellent service-quality would affect the market share of telecommunication firms in Nigeria*

4.2 Hypothesis Two

HO₂: Service-differentiation would adversely affect the public perceived image of the Nigeria's telecomm firms'

HA₂: Service-differentiation would contribute to the public perceived image of the Nigeria's telecomm firms'

Regression model: $Y = \alpha + \beta X + \mu \dots$ (For all observations $i, = 1, 2 \dots n$)

Where Y = perceived image

X = service differentiation

μ = error term of random variable

α = a constant amount

β = effect of X hypothesized to be positive

Hence, the regression (predict) equation will be $Y = 13.222 + 0.441X$

Table 2a: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.551 ^a	.588	.541	43.18114
a. Predictors: (Constant), service differentiation				

Table 2b: ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	16221.117	1	19110.019	4.102	.003 ^a
	Residual	7711.221	169	4657.572		
	Total	23932.338	170			
a. Predictors: (Constant), service differentiation						
b. Dependent Variable: perceived image						

Table 2c: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.222	42.533		2.121	.033
	Service Differentiation	.441	.312	.774	3.441	.019
a. Dependent Variable: perceived image						

Having analyzed the data from the questionnaire using regression analysis to see if service differentiation would positively affect the perceived image of the Nigeria's telecommunication firms, the Tables 2a, b & c revealed that the regression result shows the existence of significant result on the variables (R^2 calc = .588, $F = 4.102 >$ at $p < 0.05$). The significant level was found to be 0.03, and due to this, we reject the null hypothesis and accept the alternate one which states *service-differentiation would contribute to the public perceived image of the Nigeria's telecomm firms*.

5. Conclusion and Recommendations

It is seen that service offering differentiation strategy for produces returns and corporate growth by building brand loyalty and lowering customers' switching behavior. There is a positive impact of service offering differentiation strategy on the marketing and competitive advantage of firms. Firms perceived image in the Nigeria telecomm sectors are enhanced as a result of excellent service differentiation and service quality. Based on the above key conclusions, the following are the major suggestions for the telecomm firms: First, the firms in the Nigeria telecommunication industry that utilize service differentiation strategy needs to focus on gaining competitive advantage by having through improved innovation and continuing excellent customer service. Second, firms should concentrate on a promising customer segment and within that segment attempt to achieve either a cost advantage or differentiation. Lastly, a firm using a service differentiation often enjoys a high degree of customer loyalty; hence,

these firms should consider collaborating with other institutions in other industries so as to build synergies and to leverage on their operational capabilities and strengths which in the long run will translates into competitive edge.

References

- Aaker, D. A. (2001) *“Administrative Strategy”* Porto Alegre, RS: Bookman
- Acquaah, A., & Ardekani, M.Y. (2008). Does the implementation of a Combination competitive strategy yield incremental performance benefits? A new perspective from a transition economy in Sub-Saharan Africa. *Journal of Business Research*, 61(4), 346-354
- Allen, R., & Helms, M. (2006). Linking Strategic Practices and Organizational Performance to Porter's Generic Strategies. *Business Process Management*, 12(4), 433-454.
- Alvarez, C. H. (2001). Create image, gain a public confidence. *Consulting to Management*, 17(2), 27-29.
- Ansoff, H. A. (1965). *Corporate Strategy: An analytical approach to business policy for growth and expansion*. New York: McGraw Hill.
- Bacanu, B. (2010). Differentiation versus low cost strategies in Romania, *Management and Marketing* 5(2), 135-142
- Barney, J. B., & Hesterly, W. (2006). *Strategic management and competitive advantage: Concepts and Cases*. Upper Saddle River, NJ: Pearson Prentice Hall
- Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal*, 44(2), 292-303.
- Best, F. (2009) *Understanding Business* (8th Ed) London: Macmillan Publishers
- Bharadwaj, R.D. (2000). The explicit economics of image management for banks. *Industrial and Corporate Change*, 9(2), 211-53.
- Certo, S. C. & Peter, J. P. (1993) *“Administração estratégica: planejamento e implantação da estratégia”*. São Paulo SP: Makron Books
- Chandler, A. D. (2009) *“Scale and scope: the dynamics of industrial capitalism”*. Cambridge, MA, USA: Harvard University Press.
- Fairhurst, A., & Moore, M., (2003) Marketing capabilities and firm performance in fashion retailing, *Journal of fashion marketing and management*. 7(4), 386-397
- Frost, F.A. & Kumar, M. (2000). INTSERVQUAL: an internal adaptation of the GAP model in a large service organization. *Journal of Service Marketing*, 14(5), 358-377
- Hanwood, E. (2002). Organizational Image Management. *Academy of Management Review*, 21(1), 254-285
- Hayes, R. H., & Schmenner, R.W. (1978). How should you organise manufacturing? *Harvard Business Review*, 56 (1), 105-18
- Hills, C. W. L. & Jones, G. R. (1998) *“Strategic management theory: an integrated approach”*. Boston, NY: Houghton Mifflin Company.

- Hinings, C. R. & Greenwood, R. (1989). *The dynamics of strategic change*. New York, NY: Blackwell
- Hitt, C. Ireland, R. D. & Hoskisson, R. E. (2002) "*Administracaoe strategica*" Sao Paulo, SP: PioneiraThomson Learning
- Johnson, G., Scholes, K. & Whittongon M. (2008). *Exploring corporate strategy*. (5th ed.), USA. New Jersey: Financial times Prentice Hall.
- Kaynak, L. (1986). The role of image building in the strategic change consultancy process: The case of Sir John Harvey-Jones. *Strategic Change*, 9(5), 275-285
- Koskela, L. (2000). An exploration towards a production theory and its application to construction. *VTT Technical Research Centre of Finland*
- Kotler P. & Keller K. (2014). *Marketing Management*. (14th edition). India: Prentice Education
- Lynch, R. (2003). *Corporate Strategy (3rd ed.)*, Harlow, England: Prentice Hall Financial Times
- Luk, T. K. & Layton, R. (2002). Perception Gaps in customer expectations: Managers versus service providers and customers. *The Service Industries Journal*, 22(2), 109-128
- Mathur, G. L. (1986). *The consulting process in action*. *Academy of Management Review*, 1(4), 24-34.
- Mosey, D. (2009). *Early contractor involvement in building procurement: contractors, partnering and project management*. Chicester: Wiley Blackwell
- Murphy, R. (2011), *Strategic Planning in Irish Quantity Surveying Practices*. Unpublished Doctoral Thesis submitted to Edinburgh Business School, UK: Herriot-Watt University
- Nargundkar, R., (2006) *Services Marketing, second edition*, India: Tata McGraw-Hill publishing company, New Delhi
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. (2005), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*. 49(4), 41-50
- Porter, M. E. (1980). *Competitive Strategy*. New York: Free Press.
- Porter, M. E. (2008) "*On Competition*". Cambridge MA, USA: Harvard Business School Press
- Raduan, C. R., Jegak, U., Haslinda, A., & Alimin, I. I. (2009) Management, strategic Management theories and the linkage with organisational competitive advantage from the Resource-based perspective. *European Journal of Social Sciences*. 11(3), 402-418
- Sandlberg, W. R. (1986). *New venture performance: The role of strategy and industry structure*. Massachusetts: Lexington Books
- Slater, S., & Olson, E., (2001). Marketing's Contribution to implementing of business strategy: an empirical analysis. *Strategic Management Journal* 22 (1), 1055-1068
- Wernerfelt, B. & Montgomery, C.A. (1988). Tobin's Q and the Importance of Focus in Firm Performance, *American Economic Review*, 78(1), 246 – 250.

- White, C. (2004). *Strategic Management*. Hampshire, England: Palgrave Macmillan
- Wright, R. (2000) *What is strategy – and does it matter?* NY, USA: Thomson Learning.

Creative Commons licensing terms

Authors will retain copyright to their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Management and Marketing Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflict of interests, copyright violations and inappropriate or inaccurate use of any kind content related or integrated on the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).