Personality traits, assessment centre quality and management development among Nigerian telecoms managers

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Abstract
Purpose – Personality profiling in today’s business world has become an essential organisational development practice targeted at identifying a set of employees’ traits, which differentiate an employee from one another. Given the assumption that personality traits form an essential indicator of developing the potential of an individual workforce, possible to establish how employees function in a certain job role and their suitability for the particular tasks in an organisation. This study aims to explore the relationship between personality traits, assessment centres (ACs) quality and management development in Nigeria telecommunication organisation among its managers.

Design/methodology/approach – The study employed multi-stage sampling techniques and further stratified the hierarchy of the management and finally used a simple random sampling strategy on each stratum. A combination of 482 managers in Nigerian telecommunication organisations participated in this study. The study investigated 12 hypotheses and 1 mediating postulation. Multiple scales were adapted to measure dimensions of endogenous and exogenous variables along the path of mediating variables of the study. The study employed a cross-sectional survey approach to administering the research instrument across all the departments among the managers of the organisations. A structural equation model of assessment was used to analyse the data collected from managers of the telecoms organisations.

Findings – The outcome of the study was significant, 10 of the postulated hypotheses were found to be significant while 3 were not significant. The study revealed that a combination of openness to experience, conscientiousness, neuroticism, agreeableness and extraversion personality have no significant relationship with the AC. Also, employees who are high in neuroticism like being emotionally unstable did not find a significant relationship with the AC. In a similar situation, the combined effect of all the big-five personalities was not significant in management development among the managers of the telecommunication industry. The AC is discovered to mediate between personality traits and management development. Individually, the big-five model finds a significant relationship with AC and management development, respectively.

Research limitations/implications – The study is restricted to managers of the Nigerian telecoms industry alone and not all the entire workforce. It adopted cross-sectional analysis to make an inference on all the managers of the organisations. The implication is that the period of the view of a particular point in a sequence of the event may not be representative. Another implication is that the results from the cross-sectional design are for the relationship, and they do not indicate causation.

Originality/value – In practice, this study has shown that personality profiling is important to managing organisational behaviour to highlight a set of traits of employees suitable for peculiar roles. This study implies that personality elements constitute a vital signal of the potential development of the workforce. It helps to illuminate an individual functioning style in a certain task situation, therefore determining both professional and managerial suitability in performing a given role.

Keywords Personality traits, Big-five inventory model, Assessment centre, Nigerian telecoms industry, Management development

Paper type Research paper
1. Introduction
In a dynamic business environment, managerial development appears to be an essential recipe for managing an organisation for survival. It stimulates, drives employee productivity and enhances organisational goal accomplishment. Effective managers need to strive to become good leaders, and good leaders also require cogent managerial skills to be efficient and effective. For every high-performing organisation, management development is established as a factor of business success (Lagat and Makau, 2018). For several decades, management development has been on the front burner of human resource management (HRM) discourse (Dhar, 2021), and efforts have been to enhance management and managerial development in corporate organisation. Management development is rather expressed as a management revolution, an organised and regular process of management training and growth by which employees aspire to move up the managerial ladder of management. It enables the individual to acquire and apply necessary skills, experience, knowledge, capability, insights and the right attitudes to drive other managers, the workforce and work organisations effectively (Dhar, 2022). Elembilassery and Chakraborty (2021) perceived management development through the lens of leadership in focus and argued that it is systematic, deliberate, guided and directed action taken by a manager to assist himself to become more competent in his present position.

Management development seems to be one of the core areas of human capital development policy which provides a basis for sustainable competitive advantage, and a strategy for organisational change (Payambarpour and Hooi, 2015). In furtherance of this, Shaik and Dhir (2021) alluded to the fact that the concept of management development fosters nurturing managers in corporate firms to stimulate the achievement of goals and assists in promoting the capability of the managers needed to respond to present and future challenges accordingly. Developing managers in an organisation characterizes the provision of a roadmap for future directions of the organisation. It enables organisations to carefully consider the possible consequences for the internal structure, workplace environment, styles of management, human resource policies and work procedures (Larsson et al., 2020). The dynamics of the business environment and the concern on the role of HRM in organisational effectiveness have increased the attention given to management development by organisations. Managerial capability, competence, skills and strength are likely to be essential for accomplishing an advantage over competitors. Thus, organisations are utilizing diverse management development programmes to nurture this category of human capital in contemporary organisations (Carvalho et al., 2021). Moreover, corporate organisations make a frantic effort in nurturing and developing their leaders to effectively enhance the quality of leadership in the organisations for possible positioning advantage in their industry.

As it is essential to develop management capability and skills that will respond to present and future challenges in a business environment, it is vital to note that there are some fundamental ingredients that managers and who-would-be managers must possess if favourable organisational outcomes will be achieved. The personality of managers plays a vital role in nurturing managerial knowledge and skills appropriately. There are few personality traits peculiar to individuals in the organisation and these traits determine how an individual reacts to situations and events in the organisation. Personality traits prescribe an individual identity and speak volumes about who a person is. Tran and Von Korflesh (2016) affirmed that personality traits play a major role in predicting the behaviour of a manager in the workplace. In view of the persistent nature of the relationship between personality and managerial outcomes which has been extensively recognized and accepted, the personality composition of an individual appears to predict the prevailing situations and a particular behaviour in which such an individual is capable of exhibiting (Zisser et al., 2019). The majority of study in this area has attempted to relate management development outcomes with observable physical expression or characteristics and measurable traits of the
well-known five-factor model or Big fives. Personality trait makes what an individual is, it is what distinguishes an individual from another person. Revelle and Wilt (2013) put it differently that, a personality trait is a distinctive form of thinking, feeling and acting which is persistent over time and across relevant situations. It is an individual’s unique constellation of stable behavioural traits. Personality traits have been found to associate with leadership and management success as well as its failure (Damian et al., 2018). Personality traits along with psychometrically valid and trait scores help to understand how managers in the organisation got engaged with the firm. It helps to track and monitor the rationale, how, where and why they were promoted to management levels (Kerr et al., 2018). In furtherance of the above explanations, Revell and Condon (2015) argued that personality and cognitive ability along with peculiar drives shape skills, knowledge and the disposition to get promoted in the workplace.

However, to establish the stability of the personality traits of managers and leaders in organisations, there is a need for assessment centres (ACs) in other to fully understand what is the personality that best explains an individual manager for possible knowledge and skills development. Therefore, an AC is a procedure in which participants carry out and commence a sequence of job-related exercises under observation, such that the competence, skills and personality traits of an individual can be examined. An AC is a strategy that several organisations adopt to establish management potential and ascertain individual suitability for higher functional positions (Francis-Smythe and Smith, 2016). It is always employed in management development procedures as a technique to examine individual candidates’ personality traits and competencies (Aguado et al., 2016; Tripathi, 2016). It assists to understand those areas and aspects that call for development. Specially trained assessors, appraise each participant in line with fixed and scheduled measures and standards. An AC is referred to as a process of evaluating an individual’s knowledge and skills utilizing a multiple progression of exercise created to produce an array of responses (Christiansen et al., 2013). The point of departure is to commence an in-depth job analysis and core competencies of an individual candidate for a certain role. Thereafter, exercises are created that are expected to provoke the behaviours considered most essential and critical for the success of the job. The AC is synonymous with incubators where managerial core competence is identified, his/her potential will be hatched and brought to life in other to use it for business success and improve organisational business strategy. Meanwhile, assessors in the AC are trained for that purpose to observe, appraise and take note of participants’ performance in the course of these activities using designed response forms. The outcome of a standardized test is usually used to complement evaluators’ observations. Thereafter, evaluators meet to develop a consensus assessment of individual participants based on certain measures of interest before distributing the outcome of the exercise to the participants. Regularly, an explicit strategy for proficient advancement is also provided. With this procedure, participants’ present capabilities and future potential are evaluated consistently and meticulously as appraisers keenly watch the individual’s prominent discussion, provide solutions to issues and exhibit related leadership roles (Bangerter et al., 2012). In line with this early narrative on AC, the management AC is also on a multiple sequences of tests, interviews, simulations and activities structured to determine how suitable management candidate will perform in a certain job role. Management or leadership development from an AC lens is a process for identifying and detecting an individual’s exceptional physiognomy concerning leading, managing and directing others in the workplace and how such features are suitable for a given role prerequisite (Lievens, 2017).

It is worthy to establish the reason this study is of interest to the authors of this research. The essence of this study is to investigate the relationship between managers’ personality traits and the quality of ACs as well as management development construct. In management assessment, the key focus is largely a diagnosis of managerial qualities in those that have
been earmarked for a management position, assessing their managing central issues such as independence, delegating and communication among others. The goal of bringing an AC along with managerial personality traits is to get a good understanding of the managerial qualities of a management candidate and establish how such an individual would perform in a management position in the Nigeria telecoms business environment. This study also employs the Big-Five personality traits of openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (OCEAN). Therefore, this study is to investigate the link between personality traits, ACs and management development in the Nigerian telecoms industry.

2. Literature review

2.1 Theoretical framework and hypotheses development

2.1.1 Trait activation theory (TAT). Trait activation theory (TAT) is deeply rooted in the historical discourse of personality and social psychology on the comparative significance of traits and situations as a basis for behavioural variability. The concept of TAT can be linked to Murray (1938), where it was argued that situations provoke trait expression from employees in the workplace (Tett and Burnett, 2003). Tett et al. (2013) further extended the works of Murray (1938) and summed the key contributions of other proponents of the theory that were earlier postulated and influenced TAT (Simonet and Tett, 2013). The theory starts with the notion that an individual’s intensity of trait is expressed as trait-related behaviour in the workplace. An essential fundamental assumption of the theory is that traits will be revealed as an expression of work behaviours only when trait-associated cues are in existence (Tett and Burnett, 2003). In line with TAT, these traits-relevant cues can be grouped into three major interconnected groups: task, social and organisational. This illustrates that specific task features (e.g. a messy desk), social features (e.g. difficult colleagues) and organisational features (e.g. team-based organisational culture) are argued to affect when and how traits manifest as behaviour.

In other words, situations function as an activator to particular traits that an individual hold-on to. A particular trait may choose not to show forth until a situation comes up that demands it (Greet and Turban, 2015). This belief follows the interactionist approach, as positioned in the literature, and moves a step ahead in arguing an approach in which traits and situation interacts (Barrick and Mount, 1991; Gil et al., 2017). This illustrates that traits function in a passive mode and exist as steady and constant qualities but demand the active influence of an appropriate situation that activates them into action and impacts a person’s behaviour. TAT argues for situational peculiarity; meaning that if a trait predicts better performance, it is contingent upon the context or otherwise the context is suitable for performance that relies on the trait (Judge and Zapata, 2015). Hence, the advocates of the TAT claimed that trait-significant situations produce enhanced performance than situations that are trait-insignificant. A favourable illustration in support of this narrative is given in a workplace situation, whereby an individual may be offered a role that solely holds situations that are not considered to inspire this individual’s certain traits. Such an employee, thus, may be perceived as unsuccessful, when there is the likelihood that the employee would perform better in another role behaviour that produces trait-significant situations with higher control.

The practical implication of this theory is that organisations must clearly understand how various firms’ cues provoke the expression of traits, hence, this awareness allows firms to establish the situations that stimulate the traits they are most appreciated, select individuals according to those traits they most value. Nevertheless, to fully grasp the traits required for different professional and occupational roles, including team contexts, scholars have recommended that organisations needed to conduct personality-based work evaluation, through AC procedure, to enhance the selection and promotion processes into any higher
Organisations can use TAT to enable the firms to ascertain positive applicant experience. Adopting TAT, firms can devise their recruitment procedures in such a manner that candidates engage with current employees with whom they are likely to relate.

Consistent with the above discourse, the relevance of this theory is seen in its connection with personality traits and ACs variables of this study. It succinctly connects the personality profiles of the individual with the AC which is under investigation in this present study. AC dimensions and personality traits focus on a similar set of behaviours and that is the importance of the theory in this present study. Therefore, the study proposes the following hypotheses as follows:

- **H1.** Openness to experience personality will be associated with AC process among managers of the Nigeria telecoms Industry
- **H2.** Conscientiousness personality will be associated with AC process among managers of the Nigeria telecoms Industry
- **H3.** Neuroticism personality will be associated with AC process among managers of the Nigeria telecoms Industry
- **H4.** Agreeableness personality will be associated with AC process among managers of the Nigeria telecoms Industry
- **H5.** Extroversion personality will be associated with the AC process among managers of the Nigeria telecoms Industry
- **H6.** Openness to experience, Conscientiousness, Neuroticism, Agreeableness and Extroversion personality jointly associated with AC among managers of Nigeria telecoms industry

### 2.1.2 Person-organisational fit theory

Person-organisation (P-O) fit was originated from Argyris (1958) and proposed that organisations were distinguished by their nature of climates, which played a dominant role in the attraction and selection of employees and members of the organisations. The theory indicated that an organisation must hire the right set of people that fit for particular task or job role. The emphasis of Argyris (1958) was to match the right round pegs into right square holes for a job or position in the selection process. Person-organisation fit theory stresses suitability between an individual and that of the organisation (Kristof, 1996). This theory has assisted organisational development experts in fixing the right candidate with the right position in organisations. The theory enhances job-seeking procedures (Cable and Judge, 1996), socialization procedures (Scheider, 1987) and its association to long-last effects, like employee attitudes to work. The theory postulates compatibility that occurs between individual personalities and organisations when (1) at least one person offers what the other person needs or (2) they share the same vital characteristics or both exist together (Anderson et al., 2008). It further clarifies that an individual personality trait will give an understanding of how well such a person will be adaptable to an organisation. This theory resonates with personality traits and the selection of managers for possible managerial roles in the organisation. The theory helps to understand what kind of personality can best be suitable for the management development role in the workplace.

However, lately, researchers have suggested approaches based on cohesive perspectives to illustrate P-O (Morley, 2007; Swider et al., 2015). Kristof (1996) offered a robust P-O fit standard and claimed that personality and organisation not only possess basic characteristics but also possess individual pre-requisites and available resources. This combined model integrates all person-organisation fit concepts and also put into consideration the viewpoints of supplementary fit and complementary fit. This cohesive
approach to person-organisation fit is also described by Muchinsky and Monahan (1987). They also demonstrated the dual impact of advancing person-organisation fit as supplementary and complementary fit. The supplementary fit was illustrated as similarity of features between individual and company, that is, the goals and values congruence. The complementary fit occurs when an individual or organisation has resources that the other entity is in dire need of. A favourable illustration in support of this is when an organisation wants to fill a vacuum of a management position with the requisite skill set that the company lacks. Another one is when a company needs a human resource manager with peculiar experience and the organisation has a deficiency in such area (Guan et al., 2011). The key emphasis here is that an individual must possess competencies to fulfil organisation expectations or demands. It is golden to understand that personality of an individual will determine such a person degree of competence, skills and knowledge. Hence, the study proposes the following hypotheses as follows:

\[H7.\] Openness to experience personality has a relationship with management development among managers of the Nigeria telecoms Industry

\[H8.\] Conscientiousness personality is related to management development among managers of the Nigeria telecoms Industry

\[H9.\] Neuroticism personality is related to management development among managers of the Nigeria telecoms Industry

\[H10.\] Agreeableness personality is related to management development among managers of the Nigeria telecoms Industry

2.1.3 Trait theory. The trait theory was propounded by Carlyle (1841) and later went through diverse refinement processes from Allport (1937), who was popularly remarked for the dispositional trait approach, and described trait as a disposition to life experience. Eysenck (1957, 1967) introduced three spectra of personality elements as neuroticism, extraversion-introversion and psychoticism. These elements are measured with a self-report instrument. He initiated high-order dimensions of the three-factor personality model. Cattell (1973) credited 16 personality factors. His groundbreaking study on personality is highly notable in psychology. It pursues an explanation of a person’s differences in all aspects of life from psychometric profile measures of cognitive capacity, motivation, personality and disposition. Allport, Eysenck and Cattell were founding fathers of trait theory in psychology (Matthews et al., 2003).

However, Carlyle (1841) is considered to be the first person to carry out a study on the trait personality of an individual utilizing an approach in establishing natural ability, skills and physical features of individuals who got to the peak. Like Allport (1937) proposed, trait theory is otherwise known as dispositional theory, a method for the study of human personality. However, the focus of the trait theorists was basically on the evaluation of traits, which are referred to as habitual patterns of behaviour, reasoning ability and feelings (Read et al., 2010). In line with this proposition, traits are part of the personality that are reasonably consistent for a long period and vary across humans (for instance, some are naturally extrovert, sociable and outgoing while some are not). Traits are conversely to state that is largely transient dispositions. Trait theorist argues that every formation of personality traits make two distinct key beliefs. The first one holds that traits are consistent over time. It is naturally understandable that a person’s behaviour differs from time to time, but uphold that there is key stability that explains an individual real nature, the constant marks of a leopard (Smillie et al., 2013). In other words, there exist across several events and occasions, differences between visible individuals. The second assumption is that traits affect behaviour. If an individual unexpectedly launches himself into a good spirit, one may describe such a
situation that the individual is in delighted disposition. Such a claim is most definitely premise on the unstable ground due to its circularity (Smillie et al., 2012). The proponents of trait theory typically associate and enlist management qualities to effective management behaviour in the workplace. Kirkpatrick and Locke (1991) illustrated trait theory in managerial concept as drive, wide properties that comprise accomplishment, motivation, ambition, persistence, vigour and resourcefulness. While the manager’s motivation, the need to lead but not to be power-conscious as an end in itself, honesty, integrity, self-confidence (related to emotional stability), mental capability and knowledge of the business (Smillie, 2014). Though, their study indicates less clarity for traits like charisma, creativity and flexibility. However, trait theory resonates with this study given its large bearing on human personality and management development which is the focus of this study. Trait theory explains and predicts the link between personality traits, AC quality and management development of this research. Therefore, this study postulates the following hypotheses as follows:

\[ \text{H11. Extroversion personality is related to management development among managers of the Nigeria telecoms industry.} \]

\[ \text{H12. Openness to experience, Conscientiousness, Neuroticism, Agreeableness and Extroversion personality jointly related to management development among managers of the Nigeria telecoms industry.} \]

\[ \text{H13. AC mediates the relationship between personality traits and management development among managers of the Nigerian telecoms industry.} \]

2.2 Conceptual framework

See Figure 1.

2.2.1 Openness to experience and management development. Openness to experience personality type prescribes an individual that is always open to new ideas, experience, innovation and creativity. Largely, individuals who are high on the openness to experience are curious, sensitive, sociable and always brighten up the workplace, while those on the other continuum of the openness category are conventional and experience comfort in their familiar terrain (Zopiatis and Constanti, 2012). Individuals with a high tendency of openness to experience are found to be eager and curious, result-driven in the workplace and have been noted to have a large spectrum of interests in everything around them (Hudson et al., 2012). The emphasis on the openness to experience category is that those individuals with such personality traits are always better suited for a managerial position in the workplace. Studies

Figure 1.
Personality traits, assessment center and management development framework

Source(s): Developed by Authors for this study, 2021
have shown that people with high openness to experience may be characterized by cerebral abilities and flexibilities (Nieß and Zacher, 2015), which often time enable them to quest for mental stimulation in their chosen career and engage in challenging tasks at the executive level in the organisation (Woods et al., 2013). However, given the desire for new experiences, challenges and opportunities, people with high openness to experience are inclined to engage and move into different work environments and positions. They welcome change and are predisposed to hopping from one job to another, and they have been discovered to demonstrate increased job instability than other personality types (Wille and De Fruyt, 2014). They may not likely absorb themselves with the organisations and may not give the necessary attention required to nurture the individual, team and the organisation at large.

2.2.2 Conscientiousness and management development. Conscientiousness is one of the big five personality categories been at the heart of personality effectiveness that determine management development in organisations (Arora and Rangnekar, 2016). A conscientious personality is seen to be skilful and experienced, disciplined, dedicated and orderly. People with a conscientious personality usually remain focused and high in achievement drive, exhibit a high level of tenacity for purpose and due diligence which establishes a high significance of this element in career success and management development (Jennifer and Cooke, 2013). Individuals with robust achievement positioning have been discovered to experience high rising career movements which explains its relevance in the management development position of organisations (Cobb-Clark and Stefanie, 2012). High conscientiousness fosters employees to be promoted into jobs attached to greater challenges and esteem. Therefore, it has been established that conscientious personality types may likely be disposed to realize upward job changes into managerial and professional positions (Fletcher, 2013). However, Saha and Sharma (2019) have found that since conscientiousness is also related to duty-bound and deliberation, an individual with high conscientiousness is perceived with high job stability and an organisation with high reliability and sense of responsibility. Moreover, it has been found that conscientious employees are risk-aversion and cautiousness which buttress the fact that employees may be less likely to seek out innovative job opportunities, particularly managerial and professional positions (Hudson et al., 2012). This may constrain the employee from ascending to a managerial position with the necessary career speed required for an employee.

2.2.3 Neuroticism and management development. Neuroticism otherwise called emotional stability, is a relatively consistent ability to respond to negative emotions to threat, frustration or loss and self-consciousness. It describes how an individual can remain stable and maintain balance in the face of turbulent situations. Studies have established that an employee that has high emotional stability is usually calm and deemed appropriate for managerial positions in the organisation (Ali, 2019). Neuroticism is akin to but not the same as being neurotic in the Freudian sense. Some of the psychologists prefer to call neuroticism by the term emotional stability in other words to separate it from the concept of neurotic in a career test (Band et al., 2014). It has been established that individuals who were discovered to be high in emotional stability likely react less emotionally and they do not find to be disturbed or tensed up easily at work (Berglund et al., 2015). However, the fact that these categories of people do not experience negative feelings does not necessarily mean that they always experience positive feelings. While Kesavayuth et al. (2015) and Rossberger (2014) have put forward a claim that neuroticism is characterized by items indicating sadness, anger, nervousness, irritability, hostility, uneasiness and vulnerability that have been discovered to be largely associated with one another in factor analyses (Cobb-Clark and Stefaine, 2012). For people who are high on negative neuroticism, such negative feelings of emotional responses to events occur constantly and often out of proportion (Zhai et al., 2013). Furthermore, individuals who are on high neuroticism are overly modest, sensitive to criticism of others and have a feeling of personal incompetence (Ulgen et al., 2016).
2.2.4 Agreeableness and management development. Agreeableness emphasizes the ability to cooperate and lend helping hands to the team in the workplace. It is connected with modesty, altruism, sympathy, trust and a high tendency for compliance. Agreeableness personality is either undesirable or optimistically determined upward career movement into a managerial hierarchy and professional positions. An agreeable person at work is pleasant and naturally gets along well with others (Jackson et al., 2012). They are, therefore, considered exclusively suitable for leadership and managerial positions that require a high level of teamwork and healthy cooperation (Judge et al., 2014). On the other hand, individuals with a high concentration of agreeableness are linked with a need for affiliation, they are not good for competitive behaviour and are less demanding. An agreeable individual appreciates getting along with others than taken-up their self-serving motive. Survey evidence has established that the overall impact of agreeableness on leadership and managerial development in industry market results is negative (Specht et al., 2011; Woods et al., 2013). As much as an agreeable person may be more successful in teamwork, three viewpoints may negate this optimistic influence in the work ecosystem. One, assisting others may decrease employee productive work behaviour. Secondly, an agreeable employee may not be effective when facing negotiation in terms of wage bargaining. This aspect is crucial for leadership and managerial position, who would be managers must have negotiation and bargaining skills to favourably accomplish organisational goals. Lastly, an agreeable employee may engage in unstable, less paid jobs and be more likely to be unemployed (Fletcher, 2013).

2.2.5 Extroversion and management development. Ability to understand how the Big-Five model play a major role in individual life is essential to understanding the social interaction of such a person in the workplace. This offers a basis to know why an individual life is his own and not similar to his partners or neighbours. Extraversion personality is another trait on the Big-Five model that describes attributes of being sociable, capable of quickly forming close associations with others, and their outgoing nature leads to effective group work (Fang et al., 2015). Survey evidence has demonstrated that employees who are high in extroversion may likely lookout for opportunities for social interactions (Benischke et al., 2019). They are always comfortable with others and disposed to take action, engaging with vigour in productive work rather than contemplation (Shaban, 2018). Employees who are high in extraversion are suitable for management roles in organisations (Herrmann and Nadkarni, 2014). The study of Harrison et al. (2019) discovered that individuals that possess high quality of extroversion always take up a leadership role in the workplace environment. A number of the elements of extroversion, such as emphatic and self-confidence, ambition, activity and excitement-seeking (Colbert et al., 2014), portends that high scores on these personality variables drive workers to look out for new opportunities and challenges in their careers. Against this backdrop, extroverted employees are prone to actively tackle unsatisfactory work experiences by orchestrating changes (Gupta et al., 2018). Studies have shown that individuals who are high in extroversion often time move from one firm to another (Malhotra et al., 2018) and pursue employment change through job search behaviours (McCrae, 2018). Moreover, extroversion has appeared to be one of the major determinants of productive work behaviour, particularly in jobs that concerned social interaction (de Jong et al., 2019). Therefore, this leads to the hypothesis that:

2.2.6 Managerial assessment centres and management development. An AC is a test incubating environment that evaluates the skills of managers and the workforce of an organisation on a collection of multiple dimensions. It is a constellation of tests, interviews, simulations and events designed to establish how suitable an employee for a management position will perform in a specific task role. The AC helps to understand and detect an individual set of characteristics regarding leadership position, directing and managing organisational affairs. Survey evidence has shown that ACs foster a good association with leadership and management development (Turner and Nichol, 2016). The AC is notably a
technique of quality selection process for senior managers and leaders in both corporate organisations and the public sector. It offers managers’ opportunities to exhibit behaviours and skills that are strikingly job associated, the outcome of the assessment is more acknowledged by candidates and by the subordinates they will lead than the results of equally valid objective tests. Triparthi (2016) alluded to the fact that AC provokes positive behaviour and helps managers to demonstrate their skills and competence and highlighted the benefits of AC that it enables managers to grasp a thorough perspective of how others observe them and thus provokes an improvement in their skills, ability and knowledge. It engenders managers to exert more effort towards accomplishing corporate goals. Triparthi (2016) further posited that the AC enhances precision and exactness by allowing the management of organisations a wide spectrum of selection methods to be used during the procedure. It also expedites an assessment of prevailing or current performance and aids in the prediction of future job outcomes (Jorgensen and Els, 2013).

2.3 Gap in literature

Previous studies have investigated the contribution of personality traits as a predictor of job performance (Judge and Zapata, 2015), career advancement and career success (Wille et al., 2013), organisational citizenship behaviour (Kumar et al., 2009), burnout (Alarcon et al., 2009) and psychological contract (Raja et al., 2004). Also, prior studies have attempted to evaluate the nexus between personality dispositions and job associated variables. However, there is a paucity of research explaining the mediating role of ACs between personality and management development. In eulogizing the role of the AC and identifying management training and its effectiveness in selecting better candidates for employment opportunities. The AC process has not been fully explored in research, even in practice, only a few studies used AC procedure to activate personality traits and not for management positions. Besides, there are situations where AC has manifested its attendant shortcomings, an example is where one can use it for selecting individuals for a higher position in the organisation, yet it has proved not effective in selecting the right personality measures for managerial positions (Eurich et al., 2009; Jackson et al., 2016). The majority of organisations are not using AC in evaluating personality measures but rather appraising them through the rule of thumbs (Kleinmann and Ingold, 2019). On preliminary investigation, these are some possible lapses that the study has identified, and if personality measures are integrated into ACs procedure, thereby boosting the management development process of Nigeria telecoms industry. Besides, explaining possible lapses, there is no single study that has examined the relationship between personality traits, AC quality and management development as this present study. Therefore, this present study wants to fill such a gap in understanding the nexus between personality traits, AC quality and management development. Moreover, those studies highlighted above have studied personality elements under various populations such as employees and workforce alone, while the present study explores it from the management perspective lens.

3. Research methods

3.1 Research design

The research design for this study is a cross-sectional design across all managerial levels in the organisations. The rationale for cross-sectional design is that it enables the researcher to survey participants and obtained their opinion at a single point in time. Also, it is appropriate for evaluating the pervasiveness of certain behaviour in the population (Sedgwick, 2014).

3.2 Study population

The study population comprises managers of four major telecommunication companies in Nigeria (Airtel Nigeria, Globacom Nigeria Limited, 9-mobile and MTN Nigeria
communication Limited). It involved a managerial cadre ranging from supervisors, assistant managers, deputy managers and senior managers. The choice of selecting the four major telecommunication firms is based on those firms with requisite experience since the inception of the global system of mobile communication (GSM) in the year 2000 in the Nigerian business environment, and it is believed that the organisations have an enormous wealth of leadership and managerial experience. The population size of the managers in the four chosen telecom organisations at the time of filing this research report are MTN, 1,750 managers; 9-mobile, 1,875 managers; Airtel Nigeria, 1,550 managers; and Global communication (Globacom), 1,650 managers, respectively. In total, the population size is 6,825 managers.

3.3 Sampling procedure

The study adopted a multi-stage sampling technique for this research and further used stratified sampling across all the strata of managers' levels in the organisations. Thereafter, the study used simple random sampling at each level of management. The justification for choosing this strategy is that only managers of the telecoms organisations are the emphasis of this study and not the entire employees of the telecoms firms. Thus, it focuses on managers who seem to be due for a managerial position between two to three years. The essence of using a multi-stage sampling strategy is that it helps the researcher to apply cluster or random sampling after determining the group and enables the researcher to select the participants based on their peculiar knowledge of or their certain experience with the study phenomenon (Schutt, 2006).

As earlier enumerated, the number of managers in MTN Nigeria Communication Limited is estimated to be 1,750 managers according to the firm human resource manager. The managerial staff strength in 9-mobile is 1,875 according to the company human resource department and that of Airtel Nigeria, a subsidiary of Airtel Africa, which is within Bharti Airtel International, Netherland and Global Communication (Globacom), an indigenous firm at the time of this survey are 1,550 and 1,650, respectively. Thus, the total population strength is given to be 6,825 managers across the four selected telecommunication organisations. The sample size which is taken from the population size of 6,825 managers is derived by taking 10% of the entire population which is 683. This is supported in the study of Weisberg and Bowen (1977), Roscoe (1975) and Akinwale (2019) who maintained that 3%–10% of the entire population is desirable and acceptable for quality sample size determination, adding that it is adequate for predicting the robust outcome of a study. They further argued that it helps to reduce the error rate and assists in obtaining an acceptable margin of error as low as 1% which is justified in a behavioural study survey.

3.4 Instrument and measure

The study employed a research questionnaire to explore and obtain data from the managers of choosing organisations. The justification for using the questionnaire is that it enables the researchers to reach a large number of the target population. At the same time, it assists the study to obtain a realistic view concerning the subject under consideration (Eaden et al., 1999). It adapted validated scales on each variable of the study that is widely popularised for a personality traits, AC and management development. The scales of measurement were adapted for dimensions of personality traits, ACs constructs and management development. The big five personality inventory – 10 (BFI-10) is adapted from Rammstedt and John (2007). This scale has been tested and validated in both work and social environments and found to be highly reliable. Personality traits were measured with BFI-10 to measure the personality profile of managers and who would-be managers in the telecoms industry. All dimensions in this study have relatively high reliability and are greater than the benchmark value of 0.70, as suggested by Nunnally and Bernstein (1994). The study adopted a composite reliability
strategy. This scale had coefficient stability values as follows: Agreeableness (0.94), Openness to Experience (0.97), Conscientiousness (0.96), Extraversion (0.96) and Neuroticism (0.92). The internal consistency coefficient of the overall scale was 0.80. A revised version of the management development scale by Dussault et al. (2013) was adopted to measure the managerial development of managers in the Nigerian telecommunication industry. It contains 21 items that allow managers to respond on a four-point Likert scale. The choice of employing four-point Likert scale on the research questionnaire is in its ability to evaluate the psychometric properties of more reliability and validity of high degree of precision and its freedom from measurement error than the conventional five-point Likert scale. The reliability alpha coefficient for managerial development as reported by Dussault et al. (2013) was 0.92 for this scale. The AC scale adapted is obtained from Petrides et al. (2010). The scale was measured on nine dimensions ranging along with their corresponding reliability coefficients (a) Managing Resources (0.70), (b) Making Decisions (0.75), (c) Written communication (0.72), (d) Improving Business (0.72), (e) Satisfying Customers (0.78), (f) Oral Communication (0.70), (g) Managing Others (0.79), (h) Managing Self (0.81) and (i) Building Relationship (0.74). All the scales were put together to form a single research instrument against using it in disjointed form. The researchers combined the adapted scales to form a whole questionnaire and were distributed across all managerial hierarchies in the study organisation.

3.5 Statistical analysis
The statistical analysis for the study is the structural equation model (SEM). SEM is a multivariate statistical analysis technique that is used to investigate structural connections among variables of interest. It is the combination of factors and multiple regression analysis, and it is employed to explore the structural link between the measure of the study variables and latent constructs (Hair et al., 2017). The choice of this statistical analysis is to examine the covariance structure among the identified variables of the study (Matsueda, 2012). Moreover, it allows the researcher to test the mediating effect of AC quality between personality inventory profiles and management development constructs of the study. This is otherwise called bootstrapping effect in structural equation modelling. The established variables of this study are in three categories: personality traits, ACs and management development with several dimensions, and there is a need to analyse the covariance of these dimensions.

4. Data analysis and results
Table 1 presents descriptive statistics, inter-correlations, reliability and validity of the research instrument for this study. Discriminant validity and composite reliability were used in other to ensure that the instrument measure what is intended to investigate also to obtain the internal consistency of the instrument. Discriminant validity otherwise called divergent validity prescribes that conceptually two concepts must indicate significant differences (DeVelis, 2017). Discriminant validity was employed to ensure that the dimensions of the instrument measure what it intended to measure and indicate the rate at which a construct is distinguished from other constructs (Hair et al., 2019). While composite reliability ranges from 0 to 1, where a greater value illustrates a higher degree of reliability. According to Bagozzi and Yi (2012), composite reliability values should be within the limit of 0.70 or higher than 0.70 (Hair et al., 2019). Thus, the essential condition of higher internal consistency is achieved on the latent constructs of this study as produced in Table 1. All the constructs are greater than 0.70. In the same vein, the estimates for average variance extracted were also above the threshold limit of 0.50 (Fornell and Larcker, 1981), as illustrated in Table 1.

Table 2 indicates the socio-demographical profile of the managers in the Nigerian telecoms industry. On the gender of the managers and who-would be managers, 310 represents male of
<table>
<thead>
<tr>
<th>Correlations</th>
<th>Mean</th>
<th>SD</th>
<th>CR</th>
<th>AGREN</th>
<th>OPTE</th>
<th>CONS</th>
<th>ETRA</th>
<th>NEURO</th>
<th>ASS-CENT</th>
<th>MANA-DEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AgreN</td>
<td>2.61</td>
<td>0.65</td>
<td>0.939</td>
<td>(0.722)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. OPTE</td>
<td>3.09</td>
<td>0.54</td>
<td>0.974</td>
<td>0.825**</td>
<td>(0.842)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. CONS</td>
<td>2.62</td>
<td>0.54</td>
<td>0.966</td>
<td>0.721**</td>
<td>0.831</td>
<td>(0.782)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. EXTRAV</td>
<td>2.59</td>
<td>0.63</td>
<td>0.963</td>
<td>0.649**</td>
<td>0.712*</td>
<td>0.815**</td>
<td>(0.728)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. NEURO</td>
<td>2.12</td>
<td>0.63</td>
<td>0.921</td>
<td>0.798**</td>
<td>0.945**</td>
<td>0.838</td>
<td>0.814**</td>
<td>(0.704)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. ASS-CENT</td>
<td>3.44</td>
<td>0.75</td>
<td>0.913</td>
<td>0.623**</td>
<td>0.596**</td>
<td>0.752**</td>
<td>0.783*</td>
<td>0.746**</td>
<td>(0.725)</td>
<td></td>
</tr>
<tr>
<td>7. MAN-DEV</td>
<td>3.39</td>
<td>0.69</td>
<td>0.920</td>
<td>0.531**</td>
<td>0.645**</td>
<td>0.639*</td>
<td>0.754**</td>
<td>0.600**</td>
<td>0.696**</td>
<td>(0.700)</td>
</tr>
</tbody>
</table>

**Note(s):** **p < 0.01. Square root AVE (italics values) are displayed in parenthesis showing discriminant validity. SD: Standard Deviation; AGREN: Agreeableness, OPTE: Openness to Experience; CONS: Conscientiousness; EXTRAV: Extraversion; NEURO: Neuroticism; ASS-CENT: Assessment Center; MAN-DEV: Management Development; AVE: Average Variance Extracted; C.R.: Composite Reliability.
64.3% and 172 were female which gives 35.7%. The age composition of the managers across the four giant telecoms organisations in the industry offers a relatively young and vibrant dimension. The age range is from 22 years to 56 years. In total, 46 (9.5%) of the managers were in the category of 22–25 years age range; 170 (35.3%) of them fell between 26 and 35 years of age category; and 222 (46.1%) and 38 (7.9%) of the surveyed managers fell between 36–45 years and 46–55 years age range, respectively. The managerial academic profile of the participants also indicates that 14 (2.9%) were holders of a National Diploma certificate, 212 (44%) were having Higher National Diploma, Bachelor of Science, Bachelor of Art as well as a Bachelor of Education degree; 214 (44.4%) of them had a Master’s degree in addition to their first degree; and 42 (8.7%) had professional qualifications and a doctor of philosophy (Ph.D.). The managerial work experience of the participants spans from 5 years to 20 years; 124 (25.7%) of the managers had 1–5 years of work experience; 166 (34.4%) of them

<table>
<thead>
<tr>
<th>Profile</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>310</td>
<td>64.3</td>
</tr>
<tr>
<td>Female</td>
<td>172</td>
<td>35.7</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22–25</td>
<td>46</td>
<td>9.5</td>
</tr>
<tr>
<td>26–35</td>
<td>170</td>
<td>35.3</td>
</tr>
<tr>
<td>36–45</td>
<td>222</td>
<td>46.1</td>
</tr>
<tr>
<td>46–55</td>
<td>38</td>
<td>7.9</td>
</tr>
<tr>
<td>56 and above</td>
<td>6</td>
<td>1.2</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Diploma (ND)</td>
<td>14</td>
<td>2.9</td>
</tr>
<tr>
<td>HND/BSc/BA/BED</td>
<td>212</td>
<td>44.0</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>214</td>
<td>44.4</td>
</tr>
<tr>
<td>Ph.D/Professional</td>
<td>42</td>
<td>8.7</td>
</tr>
<tr>
<td>Certification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hierarchy/Managerial Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management Staff</td>
<td>174</td>
<td>36.1</td>
</tr>
<tr>
<td>Supervisory Manager</td>
<td>118</td>
<td>36.1</td>
</tr>
<tr>
<td>Assistant Manager</td>
<td>46</td>
<td>9.5</td>
</tr>
<tr>
<td>Senior Manager</td>
<td>144</td>
<td>29.9</td>
</tr>
<tr>
<td>Departments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resource</td>
<td>35</td>
<td>7.3</td>
</tr>
<tr>
<td>Finance/Account</td>
<td>36</td>
<td>7.5</td>
</tr>
<tr>
<td>Information Technology</td>
<td>84</td>
<td>17.5</td>
</tr>
<tr>
<td>Sales and Marketing</td>
<td>185</td>
<td>38.4</td>
</tr>
<tr>
<td>Corporate Affairs</td>
<td>31</td>
<td>3.3</td>
</tr>
<tr>
<td>Strategy and Planning</td>
<td>46</td>
<td>9.5</td>
</tr>
<tr>
<td>Risk Management</td>
<td>33</td>
<td>1.7</td>
</tr>
<tr>
<td>Internal Control/Finance</td>
<td>32</td>
<td>6.2</td>
</tr>
<tr>
<td>Work experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–5 years</td>
<td>124</td>
<td>25.7</td>
</tr>
<tr>
<td>6–10 years</td>
<td>166</td>
<td>34.4</td>
</tr>
<tr>
<td>11–15 years</td>
<td>130</td>
<td>27.1</td>
</tr>
<tr>
<td>16–20 years</td>
<td>44</td>
<td>9.1</td>
</tr>
<tr>
<td>20 years above</td>
<td>18</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Source(s): Field Survey, 2021
had 6–10 years of robust work experience on the job; 130 (27%) of them were having 11–15 years of hands-on work experience; and 44 (9.1%) and 18 (3.7%) of the managers were having 16–20 years and 20 years and above work experience. The study surveyed all respondents across all the departments in the organisations.

4.1 Measurement model fit: confirmatory factor analysis (CFA)

A confirmatory factor analysis (CFA) was performed to strengthen the validity of the measurement model. Multivariate normality assumption was also evaluated following the suggestion of Khattre and Naik (1999). There was no challenge concerning the violation of multivariate normality. The study used the maximum likelihood method of estimation and the goodness of fit measures to evaluate the model fit. CFA regulates the theoretical appropriateness and consistency of the model from the survey data collected for the analysis. It also determines if SEM can be further used and examine the causal interaction that exists among variables observed in the hypotheses. Hence, Table 3 shows that the model is fit, and the overall fit parameters as demonstrated indicate acceptable fit indices, with chi-square/degree of freedom ($\chi^2/df$) = 2.3; root mean square, RMSEA = 0.059; NFI = 0.94; CFI = 0.95; GFI = 0.92; AGFI = 0.85; IFI = 0.912 TLI = 0.94; NFI = 0.96. The measurement model shows an acceptable level of best fit with the collected data. These demonstrated statistics sustained the notion of achieving a fulfilling overall model fit for all indices (Hu and Bentler, 1999) (Figure 2).

<table>
<thead>
<tr>
<th>Indices</th>
<th>Threshold/good fit</th>
<th>Estimated results</th>
<th>Fitness/accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-square ($\chi^2/df$)</td>
<td>&lt;0.3</td>
<td>0.235</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>TLI</td>
<td>&gt;0.9</td>
<td>0.942</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt;0.9</td>
<td>0.950</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt;0.9</td>
<td>0.921</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>NFI</td>
<td>&gt;0.9</td>
<td>0.962</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.85&lt;AGFI&lt;0.9</td>
<td>0.856</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>IFI</td>
<td>&gt;0.9</td>
<td>0.912</td>
<td>Fit/accepted</td>
</tr>
<tr>
<td>RMSEA</td>
<td>&lt;0.5</td>
<td>0.051</td>
<td>Fit/accepted</td>
</tr>
</tbody>
</table>

Table 3. Summary of measurement model fitness indexes

Note(s): $\chi^2/df$ = Chi-Square/degree of Freedom; TLI = Tucker Lewis Index; CFI = Comparative Fit Index; GFI = Goodness of Fit Index; NFI = Normed Fit Index; AGFI = Adjusted Goodness of Fit Index; IFI = Incremental fit Index; RMSEA = Root mean square error approximation

4.2 Structural equation model

Table 4 shows all the hypotheses testing for this study, while Table 5 depicts mediation analysis of the model from the SEM. In total, nine of the postulated hypotheses were significant. The outcome of the study regarding H1 hypothesized that openness to experience personality will be associated with the AC process among managers in the Nigerian telecoms industry. This suggests that openness to experience has a positive relationship with ACs in the surveyed organisations and is significant (path coefficient = 0.68). This signifies a robust regression weight of 68% relationship between openness to experience and the use of AC procedure among managers in the Nigerian telecoms industry. The findings also indicate that (H2) conscientiousness personality is associated with the AC process among managers in the Nigerian telecoms industry and this is significant at path coefficient = 0.43, $p = 0.024$. The outcome of the study further shows that the third hypothesis (H3) which is neuroticism personality is associated with the AC personality among managers in the Nigerian telecoms industry. The fourth hypothesis, H4, which postulates that agreeableness personality is
associated with the AC process among managers in the Nigerian telecoms industry likewise shows a significant value with a regression weight (coefficient path = 0.70; $p = 0.003$). The fifth hypothesis, H5, postulates that, extroversion personality is associated with the AC process among managers in the Nigerian telecoms industry, is also significant with a regression weight of coefficient path = 0.84 at $p = 0.021$. This shows a relationship of 84% relationship between the extroversion personality of the surveyed managers and the AC process. However, the sixth hypothesis, H6, that reads openness to experience personality, conscientiousness, neuroticism, agreeableness and extroversion personality jointly associated with AC among managers in the Nigerian telecoms industry was found to be insignificant with a regression weight of path coefficient = 0.56, $p = 0.31$. The significant value for the sixth hypothesis exceeded the benchmark $P$-value of 0.05, though jointly it shows a 56% relationship with the AC process among managers in the Nigerian telecom organisations. The finding further highlights that openness to experience personality has a relationship with managerial development capability among organisations in the Nigerian telecoms industry. The regression weight on hypothesis seven has path coefficient = 0.89, $p < 0.05$. This illustrates that employees who are orderly, dutiful in the work environment and responsible, thoughtful and organised are favourable for managerial positions in the

![Measurement model](Figure 2)

Personality traits, assessment centre quality

1. P-Value = 0.000
2. RMSEA = 0.065
3. GFI = 0.949
4. AGFI = 0.916
5. TLI = 0.979
6. NFI = 0.974
7. ChiSq/df = 2.332
workplace. The outcome of the study established an insignificant connection between neuroticism and management development among the participated managers in the surveyed organisations. The regression weight indicates path coefficient $\beta = 0.56$, $p = 0.146$, where the $P$-value exceeds 5% level of statistical significant proportion. It then means that employees exhibiting a high score of neuroticism personality with features of emotional imbalance, anxiety and jealousy will not be a good fit for a managerial position in telecoms organisations. The hypothesis, H10, agreeableness personality is related to management development, depicts a stronger relationship with regression weight ($\beta = 0.78$, $p < 0.05$). This implies that individuals with a high tendency of friendliness social compliance and collaborating power will be a good fit for management development in telecoms organisations. The study outcome further produced, on the 11th hypothesis, portends a powerful and significant relationship between extroversion personality and management with the strongest regression weight of path coefficient $\beta = 0.91$, $p < 0.05$. The result suggests the highest level of significant relationship among all the 13 hypotheses of this study. While the joint relationship of all the personality traits dimensions, openness to experience, conscientiousness, neuroticism, agreeableness and extroversion were not jointly related to developing managerial competence among those who are ripe or who would-be managers in future in the Nigerian telecoms industry. The regression weight of the 12th hypothesis has path coefficient $\beta = 0.15$, $p = 0.42$. This implies that the combined connection of all the big-five model dimensions with management development has a weak relationship of 15% and $r$-squared of 2% with a $P$-value of 42% which is higher than the standard $P$-value of 5%. The last hypothesis of this study which is the AC mediates the relationship between personality traits and management development among managers in the Nigerian telecoms industry indicates that there is a direct effect of ACs on management development at the bootstrapping method of 5,000 and an indirect effect. The standardized estimates are

<table>
<thead>
<tr>
<th>Hyp. constructs and paths</th>
<th>Estimates</th>
<th>Standardised estimates</th>
<th>$p$-value $= 0.05$</th>
<th>SMC ($R^2$)</th>
<th>Result/ decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1. Openness → Assessment Centre</td>
<td>0.48</td>
<td>0.68</td>
<td>0.001</td>
<td>0.46</td>
<td>Significant</td>
</tr>
<tr>
<td>H2. Conscient → Assessment Centre</td>
<td>0.60</td>
<td>0.43</td>
<td>0.024</td>
<td>0.18</td>
<td>Significant</td>
</tr>
<tr>
<td>H3. Neuroticism → Assessment Centre</td>
<td>0.50</td>
<td>0.45</td>
<td>0.001</td>
<td>0.20</td>
<td>Significant</td>
</tr>
<tr>
<td>H4. Agreeableness → Assessment Centre</td>
<td>0.61</td>
<td>0.70</td>
<td>0.003</td>
<td>0.49</td>
<td>Significant</td>
</tr>
<tr>
<td>H5. Extrovers → Assessment Centre</td>
<td>0.45</td>
<td>0.84</td>
<td>0.021</td>
<td>0.71</td>
<td>Significant</td>
</tr>
<tr>
<td>H6. (Op- Con-Nuer-Agr- Extr) → Assessment Centre</td>
<td>0.67</td>
<td>0.56</td>
<td>0.310</td>
<td>0.31</td>
<td>Not- Significant</td>
</tr>
<tr>
<td>H7. Openness → Management Development</td>
<td>0.23</td>
<td>0.69</td>
<td>****</td>
<td>0.79</td>
<td>Significant</td>
</tr>
<tr>
<td>H8. Conscient → Management Development</td>
<td>0.37</td>
<td>0.77</td>
<td>****</td>
<td>0.59</td>
<td>Significant</td>
</tr>
<tr>
<td>H9. Neuroticism → Management Development</td>
<td>0.45</td>
<td>0.56</td>
<td>0.146</td>
<td>0.31</td>
<td>Not- Significant</td>
</tr>
<tr>
<td>H10. Agreeableness → Management Development</td>
<td>0.07</td>
<td>0.78</td>
<td>****</td>
<td>0.61</td>
<td>Significant</td>
</tr>
<tr>
<td>H11. Extrovers → Management Development</td>
<td>0.53</td>
<td>0.61</td>
<td>****</td>
<td>0.83</td>
<td>Significant</td>
</tr>
<tr>
<td>H12. (Op - Consc- Nuero-Agr- Extr) → MD</td>
<td>0.36</td>
<td>0.15</td>
<td>0.42</td>
<td>0.02</td>
<td>Not- Significant</td>
</tr>
</tbody>
</table>

Note(s): $p$-value $= 0.05$

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Direct effect</th>
<th>Indirect effect</th>
<th>Total effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>H13. AssC → MD</td>
<td>0.74 (0.46)*</td>
<td>0.14 (0.44)*</td>
<td>0.88 (0.90)*</td>
</tr>
</tbody>
</table>

Note(s): AssC: Assessment Centre; MD: Management Development
given in parentheses sideways with the size of the effect. The direct effect on how the AC mediates between the five dimensions of personality and management development gives 74% with a regression weight of 0.46, while the corresponding indirect effect shows 14% with a regression weight of 0.44. The total effect on bootstrapping of 5,000 is 88% with a combined effect of 0.90.

5. Discussion of findings

The results of this study have shown a great impact on multinational telecoms organisations in Nigeria. Among all the conjectural statements of hypotheses, 10 of the hypotheses were found to be significant and 3 of them were not significant. The first hypothesis (H1), openness to experience shows a connection with the use of ACs among the managers surveyed in the telecoms organisation. The first hypothesis implies that individuals who are highly creative and intelligent, open-minded, sensitive to inner thoughts and have knacks for innovation are easily detected through the AC process among managers of the Nigerian telecoms industry. The outcome of this hypothesis was in agreement with the study of Lievens et al. (2008) whose result established that AC quality fosters trait action robustly especially agreeableness personality compare to the biased judgement nature of the supervisors. The second hypothesis (H2), conscientiousness personality is also related to the use of AC procedure implementation. This implies that individuals with conscientiousness personalities are influenced by their career goals in the company, exhibit a careful tendency regarding planning their future, are very cautious about their operating environment and are self-managed which are easily detected through the process of AC procedure. This result was consistent with the study of Lievens et al. (2009) whose study established an AC at a crossroad and transformed the workplace on trait activation of individuals who are high in their career planning and goals through the conscientiousness personality model.

The third hypothesis, neuroticism personality associated with the AC process among managers of the Nigerian telecoms industry. This implies that emotional stability, for an individual to be composed, organised and calm fosters managerial development and the AC process is the only scientific process that can bring this out in an individual in the workplace setting. This result is in line with the study of Zacher (2014) whose finding established that emotional balance predicts career adaptability and subjective career accomplishment through the use of ACs. The fourth hypothesis (H4) proposed that agreeableness personality will be associated with the AC process among managers of the Nigerian telecoms industry. This is highly significant, in which, it shows that individuals with a high degree of collaboration tend to be very accommodating, generous, tolerant, compassionate and more flexible than other identified big-five personality dimensions. More especially, they are always eager to set scores and issues by allowing a win-win situation. This result is diametrically in line with the finding of Arora and Rangnekar (2016) whose outcome indicated that an accommodating personality has a positive influence on career resilience which is easily noticeable as a result of AC evaluation. The fifth hypothesis (H5) is the second robust significant outcome of this study. It shows that extraversion, a highly assertive individual, exhibiting greater energy and being friendly and outgoing, is associated with the AC process among managers in Nigeria telecoms organisation. This implies that an extrovert can make things happen to the advantage of the organisation and this could be easily discovered from AC evaluation. This outcome takes a symmetrical position with the result of Monahan et al. (2012) whose findings used a laboratory experiment to evaluate personality traits and established that extraversion personality is robust in productive work behaviour especially in choosing managers and supervisors in organisations.

However, collectively all the big-five personality traits failed to be significant with laboratory evaluation of the AC process. The sixth (H6), openness to experience,
conscientiousness, neuroticism, agreeableness and extroversion jointly did not relate to the use of the AC process. It is only on an individual basis that the big-five model associates with the experiment of the AC, while collectively measuring individuals that may likely have one or two personalities at the same time in his/her way of life seems difficult to assess from the AC evaluation. This finding was in line with the study of Muller and Schwieren (2012) whose study did not find a positive influence on the constellation of the big-five personality among women surveyed. The result of the study cannot find an explanation for the underlying refusal of women to compete for managerial positions in their work roles when investigating the personality big-five model collectively. Regarding the (H7) hypothesis of this study, openness to experience individuals is related to management development in the Nigerian telecoms industry. The emphasis here is that an individual who is creative and intelligent, open-minded and sensitive to inner thoughts is a better fit for management positions in organisations. It shows that such a personality will be favourable in running the affairs and managing organisations appropriately. This result is in connection with the investigations of Nieß and Zacher (2015) and Woods et al. (2013) as reviewed in this study, whose finding proved that openness to experience personalities are characterized by cerebral abilities, flexibilities and mental stimulation in a chosen career and assists to involve in highly challenging tasks at the executive position of the organisations.

Another striking outcome of the study is found in hypothesis (H8), conscientiousness personality is related to management development among managers of Nigeria telecoms Industry. The study discovered that high conscientiousness fosters employees to be promoted into jobs attached to greater challenges and esteem. The implication is that conscientious personality type is likely to be disposed to realize upward job changes into managerial and professional positions. This outcome aligns with the study of Saha and Sharma (2019) whose findings established that conscientiousness is related to duty-bound and deliberation, and such personality is perceived with high job stability and an organisation with high reliability and sense of responsibility on the best fit for management positions at the top of the organisation. Hypothesis (H9) of this study demonstrated that neuroticism personality has no relationship with management development among managers of the Nigerian telecoms industry. It shows that managers in the telecoms are exhibiting a high level of emotional imbalance and they are likely to react to their emotions, they are found to be disturbed and always perturbed at the workplace and this is not a good fit for managerial positions. This result agrees with the study of Berglund et al. (2015) whose result indicated that emotional instability individual is not suitable for management positions in organisations.

Next (H10), the study discovered that agreeableness personality strongly and positively impacts management development among managers of Nigeria telecoms industry. This illustrates that among Nigerian telecoms managers, an agreeableness personality leads to strong collaboration towards management development. This finding takes a similar position with the studies of Jackson et al. (2012) and Judge et al. (2014), which demonstrated that an agreeable person is pleasant and naturally gets along with people at work and is exclusively considered suitable for leadership and managerial positions which needs a greater degree of teamwork and healthy cooperation. Another hypothesis (H11), extroversion personality is related to management development among managers of the Nigerian telecoms industry. The emphasis of this finding is that employees who are high in extroversion are likely lookout for opportunities for social interactions which will possibly enhance organisational productivity and performance strategy. A business opportunity is likely to be won and obtained in social interactions among big-wigs during the social relationship. This result agrees with the study of Benischke et al. (2019) and Harrison et al. (2019), as reviewed in the present study. The outcome of the study stated that individuals that possess high quality of extroversion always take up a leadership role in the workplace environment. Another outcome of this study that marked insignificant is a hypothesis (H12), openness to
experience, conscientiousness, neuroticism, agreeableness and extroversion personality did not jointly lead to management development among managers of Nigeria telecoms industry. This implies that collectively the big-five personality does not determine managerial positions and none of the managers has more than one personality among the surveyed managers in Nigerian telecom organisations. Naturally, some individuals have two or more of the big-five personality in another work environment; however, among the surveyed participants of telecoms organisations, no one has beyond one peculiar personality inclination to advance their career move. This result aligns with the study of van Aarde et al. (2017) whose study revealed that five-model personality cannot associate with authentic leadership and managerial position but discovered only openness to experience and extroversion were connected to leadership roles in the South African business environment. The last hypothesis (H13) shows an AC mediate big-five personality traits and management development in Nigerian telecoms organisations. The implication of this is that the AC proved to be a scientific process of fostering a better connection with management development. It shows that it is a prominent strategy with the quality of selecting senior managers, leaders and candidates for management positions in the organisation. This result is similar to the study of Turner and Nichol (2016) whose discovery established ACs enhance and provide managers with a chance to exhibit behaviours and skills that are strikingly connected to management roles.

6. Conclusion and recommendations

The study of the big-five personality model has attracted attention from organisational theorists, human development experts and researchers alike. It has provoked an understanding of how personality is important in fixing individuals in certain and peculiar job roles. This study has demonstrated the AC quality process adopted by Nigerian telecommunication organisations has enabled the organisations in choosing desirable personality traits out of the five-model personality established for managerial positions and management development. The study, in the same vein, established that the AC evaluation has not discovered collective personality type in one employee. This means that an employee has not been able to possess more than one personality for a managerial role in the study. Thus, AC evaluation has become a better strategy and mediator for selecting candidates for the position of management and senior management among the surveyed participants. Hence, the study concludes that selecting individuals for possible managerial roles should not be determined by interviews, personal references, bio-data analysis, background checks and personality inventory, alone but endeavour to use the scientific method of analysis which is AC evaluation in establishing a quality and best candidate. However, this study suggests and recommends that the management of organisations should:

(1) Ensure that a quality and suitable evaluation process is adopted in selecting candidates and employees for task roles, this will afford the organisations to pick the best for productive performance.

(2) Management should always ensure that personality trait is evaluated in selecting candidates for any job task aside from management development position in the organisation and not only use job analysis as the basis for selection. As it is clear that personality evaluation is essential for organisational performance to be improved in firms.

(3) Strive to jettison political influence in the selection of employees into managerial positions; otherwise, they will end up putting the square peg into a round hole.
Management organisations should cognitively enforce emotional intelligence training schemes for all the employees in the Nigeria telecoms industry.

Individual employees also have a role to play by constantly embarking on self-effort of upskilling and re-skilling themselves for a possible managerial position in the organisation.

7. Theoretical implication
This study plays an experimental research role that unbundled the connection between personality traits, ACs and management development. Theoretically, this study contributes to TAT. The study contributes to the understanding of how traits could be activated with the aid of AC evaluation to managerial roles and related positions (Swider et al., 2015). Secondly, it has shown that the selection of candidates for such higher positions should be done scientifically and not mere interviews or personality inventories in other to improve selection and promotion processes into higher positions in the workplace.

8. Practical implication
In practice, this study has shown that personality profiling is important to managing organisational behaviour to highlight a set of traits of employees suitable for peculiar roles. This study implies that personality elements constitute a vital signal of the potential development of the workforce. It helps to illuminate an individual functioning style in a certain task situation, therefore, determining both professional and managerial suitability in performing a given role.

9. Direction for future research
This study has laid credence on the nexus between big-five personality traits, AC and management development, and it has indicated how the personality trait model has enabled the firm to identify a suitable personality as the best fit. This study provides an avenue for future research that can benefit from exploring other antecedents that impact the degree of management development as an essential recipe for managing organisations for survival. Future research may investigate the gender implication among managers in the telecoms industry. Taking a cursory analysis of the nexus between managerial gender balance, AC and management development among those who are ripe for management positions in Nigeria telecoms organisations. At the same time, the study may investigate a comparative paradigm shift between the Nigerian telecoms industry and other countries in Africa, like South Africa or Ghana.

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Further reading

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