A FRAMEWORK TO MANAGE WORK-FROM-HOME AT SOUTH AFRICAN PRIVATE HIGHER EDUCATION INSTITUTIONS

Nadeem Cassim*[1], Christoff Botha[2], Doret Botha[3], Christo Bisschoff[4]

[1]North-West University, Hoffman street, Potchefstroom, 2520, nadeem@regent.ac.za, (+27795182230)
[2]North-West University, Hoffman street, Potchefstroom, 2520, christoff.botha@nwu.ac.za, (+27827377823)
[3]North-West University, Hoffman street, Potchefstroom, 2520, doret.botha@nwu.ac.za, (+27795296281)
[4]North-West University, Hoffman street, Potchefstroom, 2520, christo.bisschoff@regent.ac.za, (+27845482256)

Abstract

Purpose: The primary purpose of this study was to establish a framework to manage work-from-home (WFH) within private higher education institutions in South Africa. This study identifies key considerations for a framework that enables higher education in South Africa to overcome the challenges faced during the COVID-19 pandemic related to remote work (WFH). Due to WFH's increasing importance and prevalence as a viable work arrangement globally, developing a framework is a key consideration for continuing service delivery in private higher education concerning teaching, learning and assessment.
Methodology: The study used a quantitative approach with a cross-sectional research design. No sample was drawn. The total population of a private higher education institution was used in this study. All 133 academic personnel working in the private higher education institution were surveyed. A response rate of 79% was obtained, and in terms of analysis, the study used both descriptive and inferential statistical techniques.
Findings: The analysis identified four key antecedents comprising factors. All four antecedents and all the factors were considered in developing a framework to manage the WFH of private higher education in South Africa. The analysis included mean scores, reliability coefficients, and goodness-of-fit model indices. One model fits well, the other is acceptable, and the third shows a poor fit. The framework suggests that a more holistic approach is needed to lead and manage WFH employees. The findings also indicate that managers and leaders struggled to effectively manage WFH employees.
Conclusion: It is recommended that private higher education adopt the developed framework to overcome WFH's challenges and appropriately implement WFH to reap its actual benefits. The study suggests that each antecedent be considered in the rollout of WFH arrangements in private higher education.

Keywords

Work-from-home; leadership; engagement; commitment; model; employee

JEL Classification

I20 General; I23 Higher Education; Research Institutions; M21 Business Economics

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Introduction

The COVID-19 pandemic significantly impacted modern business and society, and because of the pandemic, the requirement for businesses to adapt to new work arrangements (i.e. WFH) accelerated to safeguard business continuity and employee wellbeing [1] [2]. Remote working has become a viable and sustainable option. Working from home (WFH) enables employees to work from their homes, performing duties previously done at the office from the comfort of their home workspaces [2]. However, apart from promoting employee wellbeing, the work-from-home (WFH) model was also vital for business continuity [4]. In other words, it was the only viable work arrangement to continue the business. It is noteworthy that many businesses went into decline or demise because they could not apply WFH arrangements or because the nature of their industry did not offer WFH possibilities [3]. Interestingly, WFH remains a viable working model in the post-COVID-19 environment, with many employees now working remotely permanently. Given the importance of the WFH model and its recognition as a key arrangement for the business's foreseeable future, a comprehensive WFH framework is necessary to ensure that employment models are effectively adapted to a modern working environment [4]. Therefore, it is critical that "new" work models need to be developed to ensure that businesses and society still promote employee wellness [1].

Higher education is no exception to this paradox [5]. Higher educational institutions were compelled to adopt the new realities of WFH to continue teaching, learning and assessment. However, due to the radical shift to online or remote teaching and learning, institutions were largely ill-prepared, as they required a new teaching model and remote teaching pedagogies. The hard lockdown necessitated an abrupt and sudden shift to WFH, requiring institutions to establish and implement revised policies and procedures to maintain effective quality teaching and learning. However, few (not all) institutions were prepared to seamlessly shift to remote teaching [6]. Many higher education institutions faced significant challenges in developing WFH models tailored to their specific contexts [7]. Oakman et al. (2020) note that the WFH arrangement is a viable employment option for the foreseeable future, even in a post-COVID-19 environment. Therefore, a new WFH framework is imperative to assist managers and leaders at South African private higher education institutions.

Several researchers premised the need for WFH strategies [4][6][8][9][10][11][12][13][14][15]. These researchers identified three key antecedents for consideration based on the employees' perceptions of WFH [14]. They are 1) employee engagement [10][11][12], 2) organisational commitment [4][13][15], and 3) leadership styles during WFH [6][14][15]. Consequently, this study uses the employees' perceptions of these three antecedents as critical WFH success factors for the inception of a WFH framework within higher education [16].

Research purpose and objectives

The primary objective of this study is to develop a WFH framework for private higher education in South Africa. This is achieved by assessing how the four antecedents (employee perceptions, employee engagement, organisational commitment, and perceptions of leadership style) impact WFH [9] [10] [14].

The secondary objectives are to:

- provide a theoretical insight into employee perceptions, and the antecedents of employee engagement, organisational commitment, and leadership styles;
- empirically evaluate the antecedents' suitability in a WFH framework;
- develop a WFH framework for private higher education in South Africa; and
- measure the framework's model fit.

Literature review

Work-from-home

The concept of 'work-from-home' also known as 'industrial-working,' was a work arrangement utilised from as early as 1970 and refers to a working model that permits employees to perform their work duties from the vicinity of their homes and is regarded as a formal relationship between employer and employee [4] [17]. The term is often used synonymously with 'teleworking,' however differs as teleworking refers to working from a location outside the office, which is not fixed, whilst work-from-home (WFH) refers to working outside the office as well, but from a fixed location which is an employee's place of residence [1]. Although WFH was implemented as early as 1970, the widespread adoption of the model was noted during the COVID-19 pandemic, whereby organisations required employees to work from their homes due to country lockdown restrictions to maintain employee well-being and business continuity [18] [19]. The ILO, in this regard, reported that 93% of the world's employees were working from home from the end of 2019 [19]. One of the key drivers of WFH was digital transformation, which supported the sustainability of the new work model by offering organisations digital solutions as enablers of remote work [18].

Although WFH could be regarded as a solution to business continuity and employee wellbeing, with the appropriate support of digital transformation, the model has experienced an array of challenges in its successful implementation that could be better understood through the following challenges that have been found to affect WFH:

- *Staff resistance*: Ali's study on the impact of WFH on higher education has found that the implementation of WFH has been compounded by service delivery issues primarily due to the absence of appropriate training and infrastructure for staff to administer online education successfully. Due to the sudden transition to this model, staff were ill-prepared for the WFH arrangement, creating resistance among higher education personnel towards using the model [20]. As a result, studies have shown that higher education staff held a negative perception of WFH, given their negative experience of the model [7] [20]. Rehman noted this to be 'politics of resistance,' where higher education globally has been contested by staff resistance to WFH due to the poor perception held by staff within higher education of the model [21].
- *Staff readiness*: related to the notion of resistance, is the area of staff readiness. The level of preparedness for higher education personnel was found to be an important consideration in the acceptance of WFH arrangements [5]. However, due to the lack of conducive training and support from management and the organisation on the utilisation of WFH ICT solutions, staff did not fully adapt to the new technological solutions [22]. As a result, Mehta noted a lack of confidence, leading to a poor perceived notion of WFH amongst academic staff [23]. This lack of confidence and motivation has been found to affect staff's willingness to WFH [11].
- *Employee Wellbeing*: Studies by Oakman et al. and Manjaree and Perera emphasise the potential impact of WFH on employee wellbeing. Manjaree and Perera specifically noted the blurring of physical boundaries as what workers previously regarded as home is now their home, office, place of relaxation and school for kids, to mention a few. This has impacted employees' mental and physical health, where reported effects from employees highlighted deteriorated health statuses such as body pains because of being in one place for the day, tiredness, enhanced stress levels, loneliness, anxiety, poorer quality of life, invasion of space/privacy, work disengagement, and lack of social support [1] [22]. Oakman et al. further add that the impact of wellbeing could be attributed to the lack of management and organisational support, the lack of appropriate WFH infrastructure (workspace and ICT solutions), as well as the lack of social support and interactions from fellow colleagues [22].

- *Employee productivity*: Whilst enhancements in employee productivity may have been reported as an outcome of WFH, due to factors such as saving time on commuting for example, [1] highlights the negative impact that WFH has had on productivity levels due to the aforementioned challenges such as lack of ICT and physical infrastructure, poor management and organisational support, lack of interaction with co-workers, family and domestic difficulties, alienation, and the anxiety of future pandemic outbreaks and future employment [1] [24].

Employee engagement

The term 'employee engagement' is a business management concept that has been debated in terms of its definitional characteristics over the years. The term's evolution was sparked by the need to provide deeper insight into how employee engagement is affected in the contemporary workplace. The redefinition of the term was an outcome of incorporating positive psychology, which aimed to include the cognitive aspects of labour in understanding employee engagement [25]. Nevertheless, the term employee engagement was coined by Kahn in 1990, who regarded engagement as employees connecting their existence to their work duties and investing in their work mentally in terms of becoming dedicated to the organisation [26]. Likewise, engagement should be viewed as a positive psychological state in employees' minds, enabling them to be motivated in their tasks. As a result, Schaufeli gave rise to a contemporary definition of employee engagement as "a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication and absorption." [27]. This definition will be used in this study as the UWES questionnaire was utilised to measure academic personnel levels of vigour, dedication and absorption during the work-from-home period.

The concept of employee engagement was found to be a critical success factor of WFH during the COVID-19 pandemic, and as a result, research found the following characteristics to be key drivers of engagement during the pandemic (such as WFH) [28]:

- *Autonomy* refers to the degree of freedom employees possess in their work, particularly in decision-making [28]. Autonomy was discovered to be a key determinant of employee engagement during the pandemic, whereby employees working remotely from their homes were found to be more engaged in their tasks if they were allowed more autonomy in their jobs [28] [29].
- *Psychosocial safety* refers to the psychological state of safety employees feel in their work [28]. Jamal et al. discovered in their study that a relationship exists between psychosocial safety and WFH [28], in which employees who had a greater sense of safety were found to be more engaged and driven by their work than employees who experienced threats to their psychosocial safety. Metha's study in 2021 on the Information Technology sector concurs with this finding [28].
- *Convenience*: A study by Wiese et al. in 2020 revealed WFH's impact on convenience, particularly in commuting [30]. Because commuting to the office results in irritation and anxiety, WFH has been found to positively affect convenience as employees no longer need to commute to the office [30]. As a result, WFH's convenience was found to positively impact employee engagement [31].
- *Happiness:* Like convenience, studies have revealed that WFH leads to a greater sense of joy, satisfaction, and overall happiness [28] [32]. As a result of experiencing greater levels of happiness, employees approach their work tasks with more confidence and a balanced state of mind, thereby enhancing levels of engagement [12].
- *Social Union:* A study by Riyanto and Adhitama found that when managers dedicate effort to make employees feel regarded and promote a sense of belonging, there is greater employee engagement among staff. In other words, when management promotes a social union, employee engagement increases [15].
- *Organisational support*: Studies have found that when employees are equipped with the required infrastructure and support by the organisation, which would enable conducive WFH, employees

feel more engaged in their work [33]. On the other hand, when employees were not provided with the required support, higher levels of stress, irritation and anxiety were noted, thereby inhibiting employee engagement [31] [34].

These drivers of employee engagement should be regarded in the framework that this study recommends enhancing WFH of private higher education in South Africa. These drivers should be considered recommendations for the vigour, dedication, and absorption of academic personnel.

Organisational commitment

Due to the psychological impact that organisational commitment has on employee and business productivity, the term has become a focal point in business studies [35]. Like other business concepts like employee engagement, the definition of organisational studies has evolved to become more multi-faceted. The earliest conception of the term referred to how employees identify with their tasks and measured employees' individual strengths in terms of their commitment to their work tasks [36]. In essence, organisational commitment refers to employees' emotional attachment, perceived costs, and moral obligations that they may have towards the organisation [37] [38]. As a result of this definition, Allen and Meyer established the three-component model of organisational commitment, which refers to the differing levels of commitment that workers may have towards the organisation. The three components are comprised of affective commitment (which refers to the emotional association that workers may have with the organisation), continuance commitment (which refers to the perceived cost that employees may have of themselves if they had to leave the organisation), and normative commitment (which relates to employees remaining in their portfolios as they believe that it would be the morally correct thing to do) [37] [38] [39].

Blustein et al. (2020) found in their research that WFH has had both positive and negative impacts on the organisational commitment of remote employees, due to the various changes it has introduced to business operations [16]. From a positive contributing factor point of view, WFH has been noted to provide employees with greater levels of work autonomy, flexibility, the ability to manage a work-life balance, greater productivity levels, and enhanced job satisfaction [40] [41] [42] [43]. As a result of these positive work experiences, WFH has been noted to enhance workers' organisational commitment [42].

On the other hand, researchers in 2020, such as Pouralizadeh et al. and Gigi and Sangeeta have found that WFH could also have detrimental impacts on employees' organisational commitment [44] [45]. Due to WFH requiring employees to work from the vicinity of their homes, employees no longer experience the physical contact and relations they once held with colleagues in an office setting. This has led to feelings of alienation, as well as a sense of disconnection from their peers [41]. The feelings of isolation and disconnection from peers have decreased levels of employee commitment, highlighting the negative impact that WFH could have on organisational commitment during the pandemic. In addition to peers, employees feel less connected to managers, a sentiment amplified by the notorious nature of WFH, which is characterised by a lack of concise directives and communication between staff and line managers [43].

Leadership approaches

Leadership can be defined as an employee's capacity to influence team members in a common direction to achieve a common organisational goal [46]. Another associated definition of leadership considers the concepts characteristic of leaders having unique traits and attributes conducive to influencing team members to succeed in the workplace [47]. In addition to the characteristics of traits, leadership is also regarded as a process that promotes communication between leaders and staff, where leaders are responsible for influencing others' social behaviours in the workplace [46] [48].

Whilst the objective of leadership is common (i.e. achievement of outcomes), leaders have used different methods of achieving organisational outcomes, which are referred to as leadership styles or approaches. The following are a few approaches that are relevant to this study:

Transformational leadership: refers to a leader's focus on motivating and inspiring team members towards an objective [49]. A transformational leader is typically regarded as a visionary with a charismatic personality, prioritising the promotion of healthy workplace cultures that motivate employees to achieve their work goals [50].

Transactional leadership: refers to a leadership style that utilises incentive and punishment schemes to promote staff productivity in the workplace [51]. The approach assumes that workers will be more productive if they are rewarded for efficiency and disciplined for poor performance [52].

Laissez-faire (passive avoidant) leadership refers to a hands-off approach to leadership in which leaders provide staff with minimal direction and intervention [49]. The approach focuses on encouraging staff to be self-motivated to complete tasks without the constant requirement of intervention or supervision from leaders [49].

The COVID-19 pandemic has significantly impacted the operations of businesses, including the nature of leadership required to manage a workforce remotely [53]. Leaders were required to make key adjustments to their leadership styles to align with the new work model and staff management approach, which would sustain and promote team productivity (i.e., remote leadership). For one, communication has been a key change during the pandemic as organisations needed to communicate virtually with staff, implying a shift in the reliance on physical or face-to-face communication [54]. Leaders were encouraged to be adept with the new communications regime to lead teams successfully to establish clear lines of communication with teams [55]. In addition to communication, due to the negative associations of WFH with workers' mental health, such as the result of alienation, for example, organisations have also experienced a decline in team cohesion [55]. The leadership challenge in this regard was to foster healthy workspaces that encourage teamwork and cohesion through initiatives such as virtual team building, group counselling, and soft skills training, among others.

Related to alienation is the impact of WFH on employees' mental health. Despite its benefits, the model has also been notorious for creating anxieties and uncertainties regarding the future of workers' lives. This meant that leaders were faced with the added responsibility of ensuring worker health through appropriate virtual mechanisms that promote mental health in the virtual workplace [53].

In summary, the pandemic has fundamentally changed the world of work for the foreseeable future. WFH was regarded as the "new normal" during the COVID-19 pandemic and is something that organisations, even with physical infrastructure, may consider to be the way forward even post the pandemic [28]. However, this section has highlighted WFH's impact on key areas of organisational success, specifically on the employee perceptions of WFH, employee engagement, leadership, and organisational commitment [56]. The study aims to propose a framework for managing these aspects successfully during WFH within private higher education in South Africa.

Research design

Research approach

This study adopted the positivist research approach from the four commonly known research approaches (i.e. positivism, post-positivism, interpretivism and critical theory) [56]. This approach allows for research observations to be quantitative, inhibiting the ability to collect and interpret primary data statistically [57] [58]. In addition to the positivist approach, this study utilised the

quantitative research paradigm, an extension of positivist research. The quantitative methodology collects objective and scientific data, as there is a predetermined idea of the variables to be measured [58]. This involves collecting and interpreting numerical data to quantify the extent of phenomena, which is commonly helpful in proving/disproving hypotheses by establishing relationships within the data [58].

Population and sampling

This study's population comprised all academic personnel employed at a private higher education institution within South Africa who worked from home during the pandemic. The population reflected different categories of employment: academic faculty (27 respondents), support staff (90 respondents) and managers (16 respondents), implying a population size of 133 academic personnel. No sample was drawn because the views of all academia and faculty members could be insightful. As such, the total population was targeted. Respondents received an email invitation containing a letter of consent that participants needed to complete to commence the online survey. In total, 105 responses were received, reflecting a response rate of 79% (n = 105).

Data collection

Responses were collected from respondents via an online-administered questionnaire divided into two sections. The first section included 11 questions on the respondent's background information, such as gender, age, department, years of experience in the organisation, highest education, country of residence, nationality, marital status, employment type, duration of WFH since the start of the pandemic in 2020, and current WFH situation. The second section consisted of 28 questions for employee perceptions of WFH, the 17-item Utrecht Work Engagement Scale (UWES) to measure employee engagement levels, 18 questions for organisational commitment and the Multifactor Leadership Questionnaire, comprising 46 questions to measure leadership styles. The questionnaire was developed by [59] and adopted for this study.

Data analysis

The collected data from the respondents underwent various statistical evaluations using the IBM SPSS software [60]. The evaluations include descriptive, inferential, and multivariate techniques. The internal consistency was measured using the Cronbach's alpha coefficient [61]. Descriptive statistics provided an overview of the sample characteristics. The three goodness-of-model-fit indices were used to assess the fit of the data collected in this study to the measurement model. Although previous studies interpreted the primary findings utilising an array of descriptive and multivariate analyses [9] [10] [14], this article specifically utilises reliability scores from Cronbach’s alpha coefficient and mean scores from descriptive techniques to propose a WFH framework for private higher education in South Africa. Mean and reliability scores were used to establish a framework.

Ethical considerations

This study is regarded as low risk. A letter of permission was granted by the private institution under study. Informed consent was received from participants, as indicated on the first page of the online survey. Anonymity and confidentiality were withheld at all stages of the research study (i.e. collection, analysis and interpretation of data). Lastly, the Economic and Management Sciences Research Ethics Committee of the North-West University granted ethical clearance for the study (NWU-01253-21-A4).

4. Empirical results

This section presents information on the study's primary results, collected and analysed using descriptive and multivariate techniques. This article focuses on employee perceptions of WFH, employee engagement, organisational commitment, and leadership styles to establish a framework for managing WFH for academic personnel in private higher education in South Africa.

4.1. Socio-demographic information

Table 1 displays the socio-demographic findings of respondents collected during the survey.

Table 1. Socio-demographic information

Question	Category	N	%
With which gender do you identify yourself?	Female	66	62.9
	Male	38	36.2
	Prefer not to answer	1	1.0
In which country do you reside?	South Africa	102	97.0
	Other	3	3.0
What is your nationality?	South African	99	94.3
	Other	6	5.7
What is your age in years?	20–29	26	24.8
	30–39	52	49.5
	40–49	16	15.2
	50–59	8	7.6
	60 and older	3	2.9
What is your marital status?	Single or not in a relationship	25	25.3
	Unmarried and in a relationship	21	21.2
	Widowed	4	4.0
	Married	47	47.5
	Divorced/Separated	2	2.0
What is your highest qualification?	High (secondary) school graduate	23	22.3
	Completed technical/vocational training	6	5.8
	College/University degree	43	41.7
	Postgraduate degree	26	25.2
	PhD	5	4.9
How long have you been working at the institution?	0–6 months	16	15.2
	7–12 months	6	5.7
	1–2 years	14	13.3
	3–5 years	33	31.4
	6–10 years	24	22.9
	More than 10 years	12	11.4
What is the nature of your employment at the institution?	Management	18	17.1
	Academic (i.e. teacher, lecturer, researcher, postdoctoral fellow, etc.)	20	19.0
	Support (administrative, technical, etc.)	49	46.7
	Other	18	17.2
How long have you worked from home since the Covid-19 pandemic started in 2020?	0–3 months	24	25.0
	4–7 months	37	38.5
	8–11 months	25	26.0
	12 months and longer	10	10.4

Which scenario best describes your current work situation since the Covid-19 pandemic started in 2020?	I have been working from home since the beginning of the pandemic but come to the office occasionally (i.e. to attend a meeting and at my own discretion).	11	10.8
	I work remotely a few days a week as directed by management.	16	15.7
	I am working from the office most of the time.	30	29.4
	I returned and am always working from the office after the hard lockdown ended.	45	44.1

The socio-demographic data analysed revealed that all respondents are South African nationals and constitute a young adult population. Almost 70% of respondents were between 20 and 39 years old, with a majority being female (62.9%). Regarding tenure, results revealed that respondents were employed at the institutions for varied tenures, ranging from 6 months to over 10 years. Respondents were from different employment (i.e., managers, faculty and support) staff. It was anticipated that support staff would constitute most of the population in line with the South African higher education regulation ratio of support staff (30:1), where there should be a support staff for every 30 students [62]. All respondents worked from home during the time of the survey, and 47% of them were married. Lastly, 72% held a bachelor's or postgraduate degree.

Work-from-home Framework for Private Higher Education South Africa

Tables 2 and 3 present the reliability coefficients and mean scores of the data used to develop a framework for managing WFH in private higher education institutions in South Africa.

Table 2. Reliability and descriptive statistics of the Perceptions of WFH, Employee engagement and Organisational commitment

Reliability			Descriptive statistics	
Variable	Scale abbreviation and name	Cronbach's alpha	Mean	St. Dev.
Work-from-home	CON WFH: Conducive WFH environment	0.919	3.825	0.805
Work-from-home	WFH CH: WFH challenges	0.910	2.099	0.815
Work-from-home	O & M SUP: Organisational and management support	0.723	3.935	0.712
Work-from-home	SOC CH: Social challenges	0.795	3.261	0.899
Employee engagement	Vigour	0.786	3.7131	0.60538
Employee engagement	Dedication	0.797	4.1014	0.61148
Employee engagement	Absorption	0.812	3.6971	0.71314
Organisational commitment	Affective commitment	0.893	5.1958	1.35743
Organisational commitment	Normative commitment	0.900	5.0590	1.42049
Organisational commitment	Continuous commitment	0.745	3.8593	0.60093

The reliability is highly satisfactory with all alpha coefficients exceeding the required 0.70 [61], 2017). Mean scores portray the average score on a 7-point Likert scale. Scores below the midpoint (4) show that the specific criterion is not suitably met [60][61]. For example, the first item in the table (WFH Conducive environment) scores 3.825. This means that the home is not considered a conducive

working environment (scoring less than 4). However, Organisational commitment criteria (Affective and Normative) show a high level of agreement (exceeding 5 on the 7-point scale).

Table 3. Reliability and descriptive statistics of Leadership style

Reliability			Descriptive statistics		
Variable	Characteristic	Scale abbreviation and name	Cronbach's alpha	Mean	*SD
Leadership style	Transformational	IA: Idealised Attributes	0.801	2.6804	0.96289
	Transformational	IB: Idealised Behaviours	0.742	2.6092	0.86579
	Transformational	IM: Inspirational Motivation	0.865	2.8835	0.85418
	Transformational	IS: Intellectual Stimulation	0.723	2.4367	0.87597
	Transformational	IC: Individual Consideration	0.750	2.3366	0.94259
	Transactional	CR: Contingent Reward	0.813	2.5393	0.99615
	Transactional	MBEA: Mgmt by Exception (Active)	0.676	1.9036	0.92586
	Passive Avoidant	MBEP: Mgmt by Exception (Passive)	0.531	1.2252	0.86532
	Passive Avoidant	LF: Laissez-Faire	0.765	0.9191	0.89741
	Outcomes of Leadership	EE: Extra Effort	0.719	2.7063	0.90834
	Outcomes of Leadership	EFF: Effectiveness	0.905	2.7492	1.00839
	Outcomes of Leadership	SAT: Satisfaction	0.846	2.7376	1.06910
		Transformational	0.932	2.5998	0.80530
		Passive Avoidant	0.783	1.0677	0.80013

Two leadership style criteria have alpha coefficients below 0.7 (however, exceeding the minimum coefficient of 0.57 [64]. They are *Management by exception* in both transactional and passive avoidant leadership styles. All the other criteria are reliable (exceeding 0.70). The mean scores, however, show that none of the leadership styles are adequate to manage employees who WFH (all have scores well below the midpoint of 4). Specifically, the management by exception skills are perceived to be highly inadequate (scoring 1.22 and 0.91). The analysis shows that, irrespective of leadership style, leaders are not smoking the pipe when managing and leading their employees in a WFH environment.

The descriptive statistics and reliability scores in Tables 2 and 3 are summarized in a conceptual leadership and managing framework (see Figure 1). Reliability and mean scores were instrumental in developing this framework for WFH in a private higher education institution.

The proposed framework comprises four antecedents (*Perceptions of WFH, Employee engagement, Organisational commitment* and *Perceptions of leadership styles*). These antecedents are cumulatively explained by 13 factors for consideration during the successful rollout of WFH in private higher education in South Africa. Although all 13 factors are important, they are prioritised in the model to address the more important factors first. This should yield the highest return on managerial interventions. Management should consider and ensure that *appropriate management and organisational support is offered to staff during WFH* ($\dot{x}$ = 0.78); *establish strategies to sustain the dedication* ($\dot{x}$ = 0.82), *enhance vigour* ($\dot{x}$ = 0.74), *sustain absorption levels* ($\dot{x}$ = 0.73), *promote the establishment of conducive WFH environments for staff* ($\dot{x}$ = 0.76); and *avoid passive avoidance leadership techniques in remote managing staff* ($\dot{x}$ = 0.26).

Spearman's rank-order correlation determined correlations between the four antecedents (i.e. WFH, Employee engagement, Organisational commitment and Leadership). Table 4 shows many significant ($p \leq 0.10$) strong correlations ($r \geq 0.50$) between the four antecedents [61]. These intercorrelations demonstrate their connectedness, serving as motivation for an integrative model that encompasses all four antecedents. As such, Figure 1 presents a plausible framework for managing the WFH of academic personnel in private higher education in South Africa. In other words, the multiple correlations between the antecedents prove that they function together, and a framework for WFH should consider all four antecedents (see Table 4). This provides a further rationale as to why the framework incorporates all four antecedents.

Goodness of model fit

The three goodness-of-model-fit indices establish how well the data collected in this study fit the measurement model, where three goodness-of-model-fit indices were calculated: the CMIN/DF (chi-square statistic divided by degrees of freedom) [62], the CFI (comparative fit index), and the RMSEA (root mean square error of approximation), for the CMIN/DF, Bollen and Jackman (1993) highlight that a ratio equal to one is required for the CMIN/DF model, to be precise [63]. A CMIN/DF score of less than 1 would be regarded as a poor fit for the sampled data and the model used [64][65].

In addition, a ratio smaller than three would be sufficient for an acceptable fit, and for a strong fit, a ratio closer to two would be regarded [66]. In addition, Hair et al. reflect that ratios observed between the scores of 2 and 5 should be considered as conducive fits [65]. Concerning CFI, a score equal to 1 would refer to a perfect score, and a score less than 0.95 would be regarded as a poor fit [67]. Hair et al. confirm that CFI scores greater than 0.9 are good fits [65]. Regarding RMSEA, a value of 0 would indicate a perfect fit, and a value below 0.05 would be considered a good fit. Steiger further mentions that RMSEA scores ranging from 0.05 to 0.08 should be regarded as acceptable, and scores above 0.10 would indicate a poor fit [63].

Table 5 below reflects the results of the goodness-of-model-fit indices. With regards to CMIN/DF, results revealed a good fit for Employee Engagement (1.796) and Leadership Styles (2.180) and an acceptable fit for Organisational Commitment (3.465). For the CFI, findings revealed an acceptable fit for Employee Engagement (0.864), a close fit for Organisational Commitment (0.770) and a good fit for Leadership Styles (0.957). Lastly, the RMSEA revealed both an acceptable fit for Employee Engagement (0.87; 0.068 [low]; 0.106 [high]) and not good fits for both Organisational Commitment (0.54; 0.138 [low]; 0.171 [high]) and Leadership Styles (0.107; 0.067 [low]; 0.146 [high]).

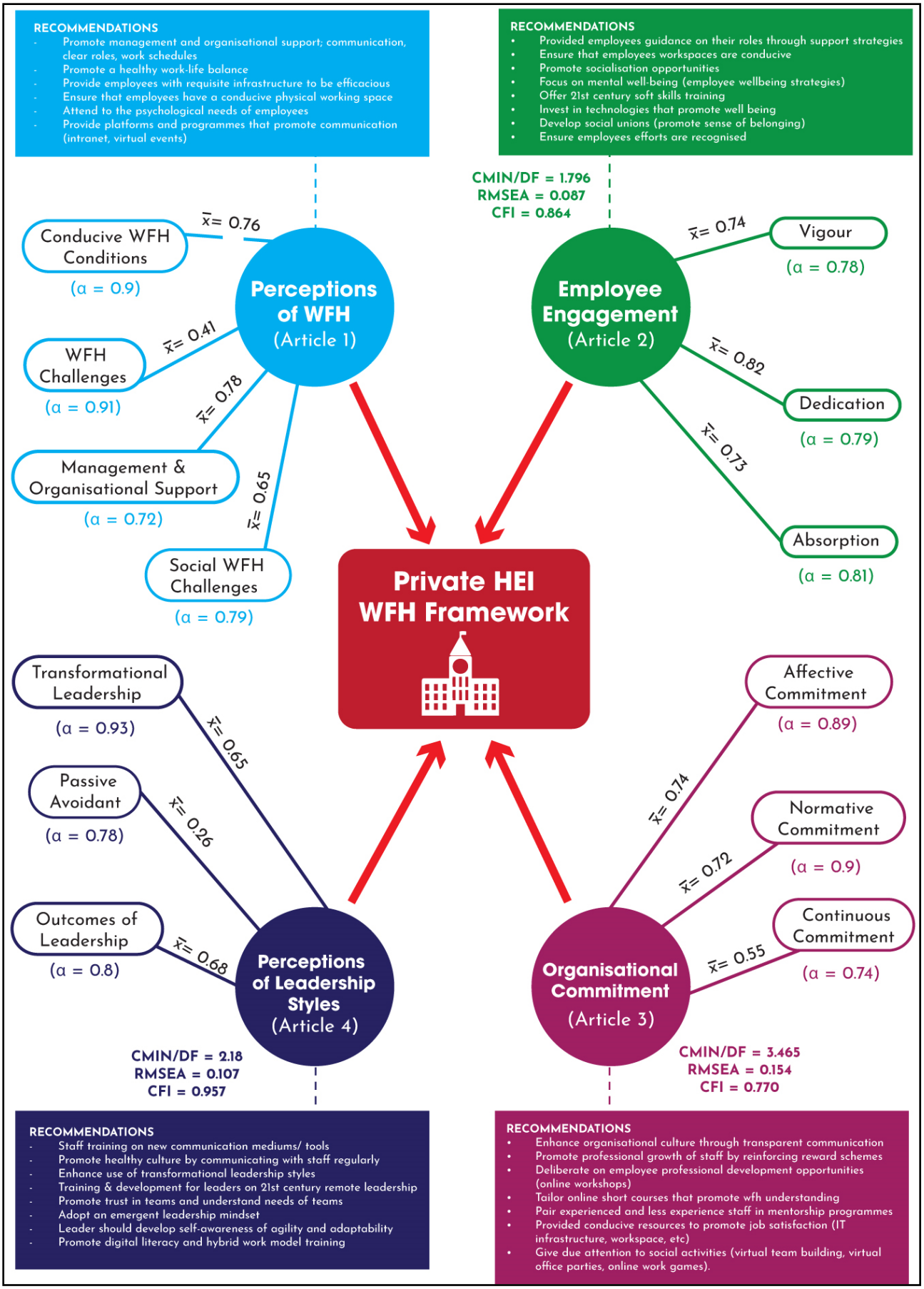

Figure 1. The Private Higher Education Institution's WFH framework

Table 4. Correlations between WFH, Employee engagement, Organisational commitment and Leadership style

Correlations																														
		Vigour	Dedication	Absorption	CON WFH	WFH CH	O & M SUP	SOC CH	AC	NC	COC	TF_IA	TF_IB	TF_IM	TF_IS	TF_IC	TS_CR	TS_MB EA	PA_MB EP	PA_LF	O_EE	O_EFF	O_SAT	Transfor mational	Passive Avoidant
Vigour	Correlation Coefficient	1,000	.500**	.585**	-0,044	-0,095	.338**	0,188	.636**	.539**	.718**	.230*	0,164	0,162	0,192	.236*	.239*	0,023	-0,045	-0,104	.267**	.317**	.359**	.250*	-0,107
	Sig. (2-tailed)		0,000	0,000	0,662	0,341	0,000	0,057	0,000	0,000	0,000	0,020	0,100	0,105	0,052	0,017	0,015	0,818	0,655	0,299	0,007	0,001	0,000	0,011	0,280
	N	104	104	104	103	103	103	103	103	103	104	102	102	102	103	102	103	101	103	102	100	101	100	103	103
Dedication	Correlation Coefficient	.500**	1,000	.460**	0,168	-0,184	.365**	-0,084	.451**	.392**	.621**	.208*	0,157	0,122	0,141	0,075	0,165	-0,088	-0,081	-.195*	.220*	0,185	.245*	0,167	-0,161
	Sig. (2-tailed)	0,000		0,000	0,089	0,062	0,000	0,399	0,000	0,000	0,000	0,036	0,116	0,223	0,156	0,456	0,096	0,382	0,415	0,050	0,028	0,064	0,014	0,092	0,104
	N	104	104	104	103	103	103	103	103	103	104	102	102	102	103	102	103	101	103	102	100	101	100	103	103
Absorption	Correlation Coefficient	.585**	.460**	1,000	0,089	-0,031	.354**	.265**	.476**	.463**	.766**	0,153	0,151	0,141	0,033	0,057	.239*	-0,095	-0,088	-0,090	.231*	.222*	.224*	0,139	-0,094
	Sig. (2-tailed)	0,000	0,000		0,373	0,755	0,000	0,007	0,000	0,000	0,000	0,124	0,131	0,157	0,743	0,571	0,015	0,342	0,375	0,370	0,021	0,026	0,025	0,160	0,344
	N	104	104	104	103	103	103	103	103	103	104	102	102	102	103	102	103	101	103	102	100	101	100	103	103
CON WFH: Conducive WFH environment	Correlation Coefficient	-0,044	0,168	0,089	1,000	-.621**	.267**	-.337**	-0,042	-0,077	0,186	-0,046	-0,044	-0,134	0,015	-0,008	-0,090	-0,073	0,081	0,077	0,012	-0,132	-0,072	-0,034	0,099
	Sig. (2-tailed)	0,662	0,089	0,373		0,000	0,006	0,000	0,671	0,442	0,059	0,645	0,659	0,178	0,879	0,938	0,368	0,471	0,415	0,440	0,907	0,188	0,475	0,735	0,320
	N	103	103	103	104	104	104	104	103	103	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
WFH CH: WFH challenges	Correlation Coefficient	-0,095	-0,184	-0,031	-.621**	1,000	-0,112	.427**	-0,001	0,033	-.261**	0,092	0,028	0,081	-0,031	0,064	0,122	0,122	0,074	0,046	0,089	0,129	0,085	0,031	0,061
	Sig. (2-tailed)	0,341	0,062	0,755	0,000		0,258	0,000	0,993	0,737	0,008	0,359	0,777	0,417	0,754	0,521	0,219	0,226	0,457	0,644	0,377	0,199	0,398	0,758	0,540
	N	103	103	103	104	104	104	104	103	103	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
O & M SUP: Organisational and management support	Correlation Coefficient	.338**	.365**	.354**	.267**	-0,112	1,000	-0,002	.384**	.302**	.371**	.303**	.274**	.222*	.202*	.236*	.337**	-0,120	-.268**	-.333**	.270**	.334**	.363**	.316**	-.343**
	Sig. (2-tailed)	0,000	0,000	0,000	0,006	0,258		0,983	0,000	0,002	0,000	0,002	0,005	0,025	0,041	0,017	0,000	0,231	0,006	0,001	0,007	0,001	0,000	0,001	0,000
	N	103	103	103	104	104	104	104	103	103	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
SOC CH: Social challenges	Correlation Coefficient	0,188	-0,084	.265**	-.337**	.427**	-0,002	1,000	.206*	.247*	0,071	.256**	0,135	.216*	0,110	0,117	.245*	0,117	-0,009	-0,032	.268**	.224*	.204*	0,194	-0,009
	Sig. (2-tailed)	0,057	0,399	0,007	0,000	0,000	0,983		0,037	0,012	0,476	0,009	0,175	0,029	0,269	0,240	0,013	0,246	0,925	0,752	0,007	0,024	0,042	0,050	0,925
	N	103	103	103	104	104	104	104	103	103	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
AC: Affective commitment	Correlation Coefficient	.636**	.451**	.476**	-0,042	-0,001	.384**	.206*	1,000	.802**	.444**	.509**	.504**	.440**	.339**	.413**	.447**	-0,011	-.241*	-.308**	.461**	.506**	.535**	.516**	-.299**
	Sig. (2-tailed)	0,000	0,000	0,000	0,671	0,993	0,000	0,037		0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,915	0,014	0,002	0,000	0,000	0,000	0,000	0,002
	N	103	103	103	103	103	103	103	104	104	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
NC: Normative commitment	Correlation Coefficient	.539**	.392**	.463**	-0,077	0,033	.302**	.247*	.802**	1,000	.380**	.419**	.440**	.366**	.360**	.310**	.352**	-0,045	-0,170	-.246*	.431**	.415**	.488**	.444**	-.217*
	Sig. (2-tailed)	0,000	0,000	0,000	0,442	0,737	0,002	0,012	0,000		0,000	0,000	0,000	0,000	0,000	0,002	0,000	0,653	0,086	0,013	0,000	0,000	0,000	0,000	0,028
	N	103	103	103	103	103	103	103	104	104	103	102	102	102	103	102	103	101	103	102	100	101	100	103	103
COC: Continuance commitment	Correlation Coefficient	.718**	.621**	.766**	.186	-.261**	.371**	0,071	.444**	.380**	1,000	.145	0,056	0,062	0,008	0,069	0,087	-0,080	-0,059	-0,059	0,173	0,162	.204*	0,099	-0,077
	Sig. (2-tailed)	0,000	0,000	0,000	0,059	0,008	0,000	0,476	0,000	0,000		0,146	0,578	0,539	0,936	0,493	0,382	0,424	0,554	0,554	0,085	0,104	0,041	0,318	0,439
	N	104	104	104	103	103	103	103	103	103	104	102	102	102	103	102	103	101	103	102	100	101	100	103	103

* p≤0.01; ** p≤0.05; *** p≤0.10

Table 5. Goodness-of-model-fit indices for Employee engagement, Organisational commitment and Leadership style [9][10]

Goodness-of-model-fit indices								
			Employee engagement		Organisational commitment		Leadership style	
Fit index	Rule	Author	Model score:	Result	Model score:	Result	Model score: Three-factor	Result
CMIN/DF	Close to 1; 3–5 still satisfactory	Mueller (1996), Paswan (cited by Shadfar & Malekmohammadi, 2013), Bollen & Jackman (1993), Kline (1998)	1.796	Good fit	3.465	Acceptable fit	2.180	Good fit
CFI	≥ 0.9 (good fit)	Hair *et al*. (2010), Mueller (1996), Bentler (1990)	0.864	Acceptable fit	0.770	Close fit	0.957	Good fit
RMSEA	0.01 (excellent) 0.05 (good) 0.08 (mediocre) ≤ 0.10 (still satisfactory)	Hu and Bentler (1999:1), Blunch (2008), Bentler (1990), Steiger (1990)	0.087 [0.068; 0.106]	Acceptable fit	0.154 [0.138; 0.171]	Not good fit	0.107 [0.067; 0.146]	Not good fit

Discussion of results

Research indicates that an existing framework to manage WFH in higher education in Indonesia exists, but no framework could be found in South Africa. The Indonesian framework, developed by Afrianty et al. confirms that management support and IT infrastructure are essential considerations for a higher education framework, but fails to consider psychosocial aspects of leadership, employee engagement, organisational commitment and WFH environments and challenges, which have all been identified previously as critical success factors [68]. A second existing framework proposed for the construction sector before the pandemic (developed by Saludin et al. in 2013) is more WFH-inclusive [69]. This framework suggests that aspects such as working space, management styles, working hours, communication and organisational culture be considered for the successful implementation of WFH. Another pre-covid WFH framework, developed by Campbell and McDonald in 2009, also proposes a more detailed approach to WFH by highlighting the need for management to consider IT support, organisational support, worker job satisfaction, competition and regulation, communications strategies and work flexibility, for effectiveness in WFH models [70]. Whilst these models are more suited to the framework proposed by this study, they still negate WFH's social and psychological requirements (this could be attributed to the frameworks proposed before the advent of COVID-19).

A fourth existing framework, developed in 2023 by the New Jersey Department of Children and Families, emphasises the need for management to prioritise organisational support, policy review, technology infrastructure and staff development for the effective rollout of WFH [71]. The framework, however, does not refer to the higher education space and is suggested for the social governance wing of the public sector. Regardless, the framework also lacks focus on WFH's social aspects, a key consideration during the pandemic [71].

This study extends beyond the previously proposed transactional frameworks and provides a comprehensive framework that considers surrounding factors impacting the success of WFH in private

higher education. Although the antecedents differ in priority, the framework comprises a practical modality for senior management of private higher education to consider for the effective implementation and continuity of WFH for academic personnel. The framework has been established utilising contemporary literature and primary findings, thereby allowing private higher education to remain competitive in the ever-evolving educational landscape, occupied by the complexities of digital transformation.

Recommendations

Management should consider the following recommendations to effectively implement WFH within private higher education institutions in South Africa. (The recommendations are structured according to the antecedents in Figure 1).

The *Employee's perceptions* indicated that concerning WFH, leadership and management should provide 1) organisational and managerial support, 2) required infrastructure at home (Internet and computer hardware), and 3) platforms and programmes that promote communication (intranet, virtual events). They should also 1) educate employees and promote conducive physical working spaces, 2) explain communication channels, 3) clear up roles, 4) communicate work schedules clearly, 5) tend to the psychological needs of employees working in isolation, and 6) promote a healthy work-life balance.

Regarding *Employee engagement*, it is recommended that managers and leaders 1) provide employees guidance on their roles through support strategies, 2) ensure that employees have conducive workspaces 3) promote socialisation opportunities, 4) focus on mental well-being (employee wellbeing strategies), 5) invest in technologies that promote wellbeing, and 6) engage in strategies to promote a sense of belongingness among employees.

Regarding the antecedent *Organisational commitment*, it is crucial to 1) enhance organisational culture through transparent communication, 2) Promote professional growth of staff by reinforcing reward schemes, 3) Deliberate on employee professional development opportunities (online workshops), 4) Tailor online short courses that promote WFH teaching, 5) pair experienced and less experienced staff in mentorship programmes, 6) give attention to social activities (virtual team building, virtual office parties, online work games).

The antecedent *Leadership styles* postulate recommendations such as 1) staff training on new communication mediums/ tools, promoting a healthy culture by communicating with staff regularly, 3) enhancing the use of a transformational leadership style, 4) adopting an emergent leadership mindset, 5) develop leaders' self-awareness of agility and adaptability, and promote trust in teams and understand the needs of teams.

Limitation

The study was premised on one private higher education institution in the country. Therefore, although the results should not be generalised to public or global higher education without confirmation, they could be adapted and evaluated for these sectors.

Conclusion

This study aimed to establish a framework to manage the WFH of academic personnel in private higher education in South Africa. Using descriptive and inferential statistics, this study determined that perceptions of WFH, employee engagement, organisational commitment and leadership styles were viable antecedents to be included in the proposed framework. This was further supported by the correlational analysis, confirming the interconnectedness of the antecedents. Whilst the literature

reviewed highlighted the challenges and considerations of these antecedents during WFH, this study succeeded in developing a framework and making recommendations for each antecedent. The appropriate execution of this framework could help private higher education institutions in South Africa overcome the under-preparedness and complexities that WFH brings, and its subsequent impact on enhancing online teaching, learning, and assessment. The study also recommends evaluating the framework for public higher education, global higher education, and business in general, given that the challenges of WFH are common across industries and sectors.

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