



THE ORGANISATIONAL DIVIDEND OF TRAINING: EXAMINING INSTITUTIONAL GROWTH PERCEPTIONS IN AFRICAN HIGHER EDUCATION

Kassim Bawah Abdallah¹,

Rashid Yakubu²ⁱ

¹Registry,

School of Medicine,

University for Development Studies,

Tamale, Ghana

²Registry,

Faculty of Education,

University for Development Studies,

Tamale, Ghana

Abstract:

This study examines the relationship between training initiatives and institutional growth outcomes at the University for Development Studies (UDS). Drawing on Resource-Based View (RBV) theory, the research investigates whether staff perceive training investments as contributing to organizational capabilities that drive institutional growth, competitiveness, and strategic goal achievement. Data were collected from 198 teaching and non-teaching staff at UDS using a cross-sectional survey design. Chi-square tests were used to examine associations between staff category and perceptions of training's contribution to ten institutional growth indicators, including productivity, teamwork, service delivery, innovation, goal achievement, and reputation enhancement. Staff demonstrated strong consensus that training contributes to institutional growth outcomes, with mean ratings exceeding 3.95 on a 5-point scale across all dimensions. However, only one statistically significant staff category difference emerged: non-teaching staff more strongly associated training with organizational goal achievement. The absence of significant differences across nine other growth indicators suggests training's organizational benefits are perceived uniformly regardless of professional category, contrasting sharply with documented differential individual-level returns. The findings extend RBV theory to higher education training contexts, demonstrating that training investments generate perceived organizational resource advantages that transcend professional category boundaries. While individual training returns vary by staff category, organizational growth benefits appear to operate through collective mechanisms producing shared perceptions across the institutional workforce.

ⁱ Correspondence: email kbawah@uds.edu.gh, ryakubu@uds.edu.gh

Universities can leverage training investments for organizational growth outcomes regardless of staff category composition. The universal organizational benefit perception suggests training effectively builds institution-wide capabilities even when individual performance returns vary. Resource allocation decisions should account for both differential individual returns and uniform organizational benefits. This study provides the first empirical examination of training-institutional growth relationships through an RBV lens in African higher education, distinguishing organizational-level from individual-level training outcomes and revealing divergent patterns of staff category effects across these analytical levels.

Keywords: training and development, institutional growth, resource-based view, higher education, organizational capabilities, Ghana, developmental university

1. Introduction

Universities worldwide face intensifying pressures to demonstrate institutional effectiveness, enhance organizational competitiveness, and achieve strategic objectives within resource-constrained environments (Altbach et al., 2019). These pressures have elevated interest in human resource development as a mechanism for building organizational capabilities that drive institutional growth. Training and development investments, representing substantial institutional expenditure, are increasingly evaluated not merely for individual performance effects but for contributions to organizational-level outcomes including productivity, innovation, service quality, and competitive positioning (Pfeffer, 1994).

Resource-Based View (RBV) theory of a firm provides a compelling framework for understanding how training investments might generate institutional growth advantages. The RBV posits that organizational competitive advantage derives from resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Human capital developed through systematic training represents precisely such a strategic resource: skilled employees enhance organizational capabilities in ways that competitors cannot easily replicate, generating sustained performance advantages (Wright et al., 2001).

Despite the intuitive appeal of RBV logic for understanding training's organisational effects, empirical examination of training-institutional growth relationships in higher education remains notably limited. This gap is particularly consequential for universities in developing countries, where resource constraints necessitate careful prioritisation of investments and where understanding training's organisational returns is essential for evidence-based resource allocation (Materu, 2007; Mohamedbhai, 2014). African universities, facing distinctive challenges including rapid enrolment growth, infrastructure deficits, academic staff shortages, and quality assurance imperatives, require context-specific evidence to inform human resource development strategies (Teferra and Altbach, 2004; Cloete et al., 2015).

Higher Education Institutions (HEIs) present a particularly compelling context for investigating training-institutional growth relationships. HEIs pursue distinctive missions that integrate academic excellence with community engagement, often operating in underserved regions where their contributions to human capital formation and knowledge generation carry heightened significance (Tilak, 2008). The University for Development Studies (UDS) in Ghana exemplifies this institutional type, having been established in 1992 with an explicit mandate to integrate academic excellence with community engagement across Ghana's northern regions (Kaburise, 2003), and across the 16 of Ghana. Understanding how training investments contribute to institutional growth at such a university informs both strategic planning within individual institutions and, more broadly, policy development for the higher education sector.

This study addresses these gaps by examining training-institutional growth relationships at UDS through an RBV theoretical lens, complemented by insights from human capital theory and organisational learning perspectives. The study pursues two interrelated research objectives. First, we investigate staff perceptions of training's contribution to institutional growth outcomes, examining whether employees perceive training investments as generating the organisational capabilities predicted by RBV theory. Second, we examine whether staff category, distinguishing teaching from non-teaching staff, moderates' perceptions of training's institutional growth contributions. This second objective responds to evidence that training effects may differ across professional categories at the individual level, raising questions about whether such category-contingent patterns extend to organisational-level outcome perceptions.

The study makes several contributions to the training and higher education literatures. First, we provide what is, to our knowledge, the first systematic empirical examination of training-institutional growth relationships through an RBV lens in African higher education. Second, we distinguish organisational-level from individual-level training outcomes, revealing that divergent patterns of staff category effects operate across these analytical levels. Third, we extend RBV theorising to resource-constrained HEI contexts, exploring how the framework applies to organisations pursuing distinctive missions within resource-constrained environments. Fourth, we contribute to methodological discussions about the importance of multi-level analysis in training effectiveness research.

The remainder of this article proceeds as follows. Section 2 develops the theoretical framework, integrating RBV theory with human capital and organisational learning perspectives to generate specific predictions about training-institutional growth relationships. Section 3 describes the research methodology, including the study context, sampling procedures, measures, and analytical approach. Section 4 presents findings from descriptive and inferential analyses. Section 5 discusses theoretical and practical implications, while Section 6 concludes with limitations, future research directions, and summary observations.

2. Theoretical Framework and Literature Review

2.1 Resource-Based View and Strategic Human Capital

The Resource-Based View of the firm has emerged as one of the most influential theoretical perspectives in strategic management, providing a robust framework for understanding how organisations develop and sustain competitive advantage. Originating in Penrose's (1959) seminal work on the theory of firm growth and subsequently formalised by Wernerfelt (1984) and Barney (1991), the RBV fundamentally redirects strategic analysis from external industry positioning toward internal resource configurations. The theory's central proposition is that sustainable competitive advantage derives not from market positioning per se, but from the possession and effective deployment of strategic resources that competitors cannot easily acquire, replicate, or substitute (Barney and Clark, 2007).

Barney's (1991) VRIN framework specifies the characteristics that enable resources to generate sustained competitive advantage. Resources must be valuable, enabling the organisation to conceive or implement strategies that improve efficiency and effectiveness. They must be Rare—not widely available across competing organisations. They must be Inimitable—difficult for competitors to replicate due to unique historical conditions, causal ambiguity, or social complexity. Finally, they must be Non-substitutable, lacking strategically equivalent alternatives that would undermine their advantage-generating potential. Resources meeting all four VRIN criteria constitute strategic assets capable of generating sustained competitive advantage and, by extension, superior organisational performance.

Human capital, the knowledge, skills, abilities, and other characteristics (KSAOs) embodied in an organisation's workforce, represents a paradigmatic strategic resource meeting VRIN criteria (Wright et al., 2001). Skilled employees developed through systematic organisational investment are valuable, enhancing organisational capability to execute strategic objectives. Specific human capital configurations are rare, as the particular combination of skills, tacit knowledge, and organisational experience characterising a given workforce is not widely replicated. Human capital is inimitable due to its embeddedness in social relationships, organisational routines, and path-dependent developmental trajectories that resist replication even when competitors observe outcomes. Finally, human capital is non-substitutable because technology and capital equipment, while complementary, cannot fully replace the judgement, creativity, and adaptive capability that skilled human resources provide (Crook et al., 2011; Ployhart et al., 2014).

Training and development activities represent primary mechanisms through which organisations build and enhance their human capital stocks. By investing in employee learning, organisations develop individual competencies that aggregate into collective capabilities enabling strategic execution and competitive differentiation (Ployhart and Moliterno, 2011). This human capital emergence process, whereby individual-level KSAOs combine to create unit-level or organisation-level capabilities,

constitutes a critical theoretical linkage between training investment and organisational-level outcomes. Training investments develop individual resources (knowledge, skills) that, through complementarity and social interaction, generate emergent organisational capabilities exceeding the sum of individual contributions (Wright et al., 2014).

The RBV perspective on training implies several predictions regarding training-institutional growth relationships. First, organisations that invest systematically in training should develop enhanced human capital stocks that enable improved organisational performance. Second, these performance advantages should be sustained to the extent that developed human capital meets VRIN criteria, that is, when training develops organisation-specific skills and tacit knowledge that competitors cannot easily replicate. Third, training investments should generate organisational-level outcomes beyond aggregated individual performance, including collective capabilities for innovation, adaptation, and strategic execution. The current study tests these predictions by examining whether staff perceive training investments as contributing to institutional growth outcomes consistent with RBV theorising.

2.2 Human Capital Theory and Training Investment

Human capital theory provides complementary theoretical grounding for understanding training-outcome relationships. Originating in the work of Schultz (1961) and Becker (1964), human capital theory conceptualises education and training as investments that enhance individual productivity and, by extension, organisational performance. The theory distinguishes general human capital (skills transferable across employers) from specific human capital, skills valuable primarily within the investing organisation. This distinction carries implications for training investment decisions and expected returns: organisations rationally underinvest in general training (whose returns may be appropriated by competitors who hire away trained employees) while investing more heavily in specific training whose returns are captured internally (Acemoglu and Pischke, 1999).

In higher education contexts, human capital investments encompass both academic skills (research methodology, pedagogical competencies, disciplinary expertise) and administrative capabilities (management skills, technological proficiency, service delivery competencies). Teaching staff receive training enhancing academic human capital relevant to their instructional and research responsibilities, while non-teaching staff receive training developing administrative human capital relevant to operational, technical, and support functions. This categorical distinction may produce differential training effects across staff categories, as the nature of invested human capital varies systematically between groups (Guest et al., 2003).

Recent developments in human capital theory have emphasised the importance of understanding how individual human capital combines to create collective capabilities at team, unit, and organisational levels. This perspective—termed human capital resources (Ployhart et al., 2014) or emergent human capital (Ployhart and Moliterno, 2011)—focuses on the processes through which individual KSAOs aggregate and interact

to produce unit-level resources that are conceptually and empirically distinct from their individual-level components. Complementarity among employees, social interaction and knowledge sharing, and enabling contextual conditions all influence human capital emergence processes. Training investments that enhance not only individual skills but also the complementarity and interaction patterns among employees may generate amplified organisational-level returns exceeding what individual-level analysis would predict.

2.3 Organisational Learning and Capability Development

Organisational learning theory offers additional insights into mechanisms linking training investment to institutional growth outcomes. Building on foundational work by Argyris and Schön (1978) and Senge (1990), organisational learning perspectives emphasise how organisations develop, retain, and transfer knowledge in ways that enhance adaptive capacity and performance. Training represents a formal learning mechanism through which organisations develop individual and collective capabilities, complementing experiential learning processes that occur through ongoing operations (Crossan et al., 1999).

The organisational learning perspective highlights several mechanisms through which training may contribute to institutional growth. First, training develops absorptive capacity—the organisation's ability to recognise, assimilate, and apply new knowledge (Cohen and Levinthal, 1990). Enhanced absorptive capacity enables organisations to learn more effectively from experience, environmental feedback, and external knowledge sources, potentially generating innovation and adaptation advantages. Second, training may facilitate knowledge sharing and integration across organisational boundaries, building collective capabilities that enhance coordination and collaborative problem-solving (Grant, 1996). Third, training can contribute to organisational memory—the accumulated knowledge and routines that enable consistent performance and adaptive learning over time (Walsh and Ungson, 1991).

Integrating organisational learning insights with RBV perspectives suggests that training investments contribute to institutional growth not merely by enhancing individual skills but by building collective learning capabilities that are socially complex, path-dependent, and difficult for competitors to replicate. These collective learning capabilities may generate sustained competitive advantage consistent with RBV predictions while also enabling the adaptive capacity emphasised in organisational learning scholarship. The current study examines whether staff perceive training investments as contributing to such organisational-level capability development.

2.4 Training and Organisational-Level Outcomes

Empirical research examining training's organisational-level effects has produced generally supportive but methodologically nuanced findings. Tharenou et al.'s (2007) comprehensive meta-analysis distinguished individual-level outcomes (reactions, learning, individual performance) from organisational-level outcomes (productivity,

quality, financial performance), finding modest positive relationships between training investment and organisational outcomes. Effect sizes for organisational outcomes were smaller than those for individual outcomes, reflecting the complexity of translation processes linking individual learning to organisational performance and the influence of numerous moderating factors.

Subsequent research has identified conditions under which training more strongly predicts organisational outcomes. Aguinis and Kraiger (2009) synthesised evidence indicating that training effectiveness depends on needs assessment quality, instructional design, transfer climate, and post-training support. Salas et al. (2012) emphasised the importance of systemic approaches that integrate training with broader talent management practices. Research by Sung and Choi (2014) demonstrated that training investments interact with high-performance work systems to generate amplified organisational performance effects. Collectively, this evidence suggests that training's organisational-level returns depend substantially on implementation quality and integration with complementary human resource practices.

Research specifically examining training in higher education contexts remains comparatively limited. Studies in corporate settings may not generalise fully to academic organisations characterised by professional autonomy, collegial governance, tenure systems, and distinctive performance metrics (Enders and de Weert, 2009). The limited available evidence suggests that professional development enhances faculty teaching effectiveness and research productivity (Steinert et al., 2006), while administrative staff training contributes to service quality and operational efficiency (Berman et al., 2021). However, systematic examination of training's contribution to institutional-level growth outcomes in higher education—particularly in developing country contexts—remains largely unaddressed.

2.5 Institutional Growth in Higher Education

Institutional growth in higher education encompasses multiple dimensions reflecting universities' complex stakeholder relationships and multi-faceted missions. Drawing on institutional theory (Scott, 2014) and higher education scholarship (Pinheiro and Stensaker, 2014), institutional growth may be conceptualised as encompassing academic quality improvement, research productivity enhancement, service delivery strengthening, operational efficiency gains, reputation advancement, stakeholder satisfaction, competitive positioning, and strategic goal achievement. These dimensions are interrelated, as improvements in one domain (e.g., research productivity) may generate positive spillovers affecting others (e.g., reputation, competitive positioning).

For HEIs with explicit development mandates, institutional growth carries additional connotations related to community impact, regional development contribution, and societal transformation. The UDS, established with explicit objectives of integrating academic excellence with community engagement in Ghana's northern regions, pursues growth through community impact alongside traditional academic advancement (Kaburise, 2003). Training investments at development-oriented

universities thus face expectations of contributing not only to conventional academic performance indicators but also to institutional capacity for community engagement and development impact.

Understanding how training investments contribute to perceived institutional growth is particularly consequential for resource-constrained institutions. When resources are limited, understanding which investments generate recognised organisational returns informs strategic prioritisation. If training investments are perceived as contributing to institutional growth outcomes valued by stakeholders, such perceptions may legitimise continued investment and generate support for human resource development initiatives. Conversely, if training investments are not perceived as contributing to valued outcomes, resource allocation may shift toward alternative investment priorities.

2.6 Staff Category as Moderating Factor

Staff category, distinguishing teaching from non-teaching personnel, represents a potentially important moderator of training-outcome relationships in higher education contexts. Teaching and non-teaching staff occupy distinct professional roles, possess different educational backgrounds, perform varied job functions, and may respond differentially to training interventions. Teaching staff (academic faculty) engage primarily in instruction, research, and academic service, requiring pedagogical skills, disciplinary expertise, and scholarly capabilities. Non-teaching staff (administrative, technical, and support personnel) perform operational, managerial, and service functions requiring administrative competencies, technical skills, and service delivery capabilities.

These categorical differences may produce differential training effects at both individual and organisational levels. At the individual level, training content, delivery methods, and transfer conditions likely vary between categories, generating different performance outcomes. Research suggests that training effects depend substantially on alignment between training content and job requirements (Salas et al., 2012), implying that category-specific training programmes should be designed to address distinct capability requirements. Evidence from companion analyses at our research site confirms that individual-level training-performance relationships differ significantly by staff category, with teaching staff showing attenuated relationships relative to non-teaching staff across multiple performance dimensions.

Whether such category-contingent patterns extend to organisational-level outcome perceptions is less clear. While individual training returns may differ by category, perceptions of training's contribution to organisational growth may operate through different mechanisms. Organisational-level outcomes (productivity, reputation, competitive positioning) are collective phenomena experienced across the institutional workforce. Information about organisational outcomes is more publicly available than individual performance information, potentially generating shared interpretations regardless of categorical position. Social information processing theory (Salancik and Pfeffer, 1978) suggests that individuals form attitudes and perceptions through social

interpretation processes shaped by available information. To the extent that information about institutional growth is collectively available and interpreted through shared organisational discourse, perceptions may converge across categories.

The current study examines whether staff category moderates perceptions of training's contribution to institutional growth, testing whether the category-contingent patterns observed at the individual level extend to organisational-level outcome perceptions or whether, alternatively, organisational growth perceptions show category-transcendent uniformity.

3. Methodology

3.1 Research Design and Philosophical Approach

This study employed a cross-sectional survey design to examine relationships between training initiatives and perceived institutional growth at the UDS, Ghana. The cross-sectional approach is appropriate for examining associations between training experiences and growth perceptions at a single point in time, providing a snapshot of staff perceptions that informs both theoretical understanding and practical decision-making. While cross-sectional designs cannot establish causal relationships with the certainty afforded by longitudinal or experimental approaches, they offer advantages in terms of feasibility, resource efficiency, and ability to examine naturally occurring variation across large samples (Rindfleisch et al., 2008).

The study adopts a positivist epistemological stance, consistent with the quantitative methodology employed. This approach assumes that objective relationships exist between training investment and growth outcomes, and that these relationships can be systematically examined through structured measurement and statistical analysis. We recognise that perceptions of institutional growth are socially constructed interpretations rather than objective reality; however, the positivist framework enables systematic examination of patterned variation in these perceptions across staff categories and growth dimensions. The approach is consistent with the dominant methodological tradition in training effectiveness research (Salas et al., 2012) while acknowledging constructivist elements inherent in perception-based measurement.

3.2 Research Context

The University for Development Studies, established in 1992, operates as Ghana's first development-oriented university with an explicit mandate to integrate academic excellence and community engagement across Ghana's northern regions (Kaburise, 2003). The university's distinctive Third Trimester Field Practical Programme (TTFPP) exemplifies this development orientation, requiring students to live and work in rural communities while applying academic learning to community development challenges. This institutional context shapes training requirements and expectations, as staff capability development must support both conventional academic functions and distinctive community engagement responsibilities.

University for Development Studies operates across multiple campuses serving populations that have historically experienced educational disadvantage relative to southern Ghana. The university has experienced substantial growth since establishment, expanding from initial faculties focused on agriculture and integrated development studies to comprehensive offerings including health sciences, education, natural sciences, and business programmes. This institutional growth trajectory creates ongoing demands for staff capability development, as expanded programmes require enhanced instructional, research, and administrative capabilities.

The research site, the Faculty of Education, represents a strategic choice for examining training-growth relationships. Education faculties bear direct responsibility for training the next generation of educators, creating heightened sensitivity to training effectiveness issues. Staff in education faculties are simultaneously recipients of professional development and experts in learning processes, potentially generating more informed and differentiated perceptions of training's organisational effects. The faculty comprises both teaching staff (lecturers, senior lecturers, professors) and non-teaching staff (administrative officers, technicians, support staff), enabling examination of category-contingent perception patterns.

3.3 Population, Sampling, and Sample Characteristics

The target population comprised all staff within the Faculty of Education at UDS, totaling 391 individuals at the time of data collection. This population included both teaching staff (academic faculty with instructional and research responsibilities) and non-teaching staff (administrative, technical, and support personnel). Sample size determination followed Yamane's (1967) formula for finite populations at 95% confidence level with $\pm 5\%$ precision, yielding a required sample size of 198 respondents.

Stratified random sampling was employed to ensure proportional representation of teaching and non-teaching staff categories. This sampling approach addresses potential category-based clustering of perceptions while maintaining representativeness of the overall population. Within each stratum, simple random selection identified specific respondents for inclusion. The achieved sample comprised 134 non-teaching staff (67.7%) and 64 teaching staff (32.3%), proportions consistent with the category distribution in the population. This categorical distribution reflects the typical staffing pattern in higher education faculties, where administrative and support functions require substantial non-teaching personnel to support academic operations.

Demographic analysis of the sample revealed the following characteristics. Gender distribution showed 126 male respondents (63.6%) and 72 female respondents (36.4%), reflecting gender patterns common in Ghanaian higher education employment. Age distribution indicated 78 respondents (39.4%) aged 30-39 years, 62 respondents (31.3%) aged 40-49 years, and smaller proportions in younger and older categories. Educational attainment varied considerably: 42 respondents (21.2%) held doctoral degrees, 58 (29.3%) held master's degrees, 54 (27.3%) held bachelor's degrees, and 44 (22.2%) held diplomas or lower qualifications. Tenure at UDS ranged from less than one

year to over 20 years, with a median of 7 years. These demographic characteristics suggest a sample with substantial organisational experience and educational attainment, enhancing the reliability of perceptual assessments.

3.4 Measures and Instrumentation

The institutional growth perception scale comprised ten items assessing staff perceptions of training's contribution to various dimensions of institutional advancement. Items were developed through a systematic process involving literature review, expert consultation, and pilot testing. Initial item generation drew on institutional growth dimensions identified in higher education scholarship (Pinheiro and Stensaker, 2014) and training effectiveness research (Tharenou et al., 2007). Expert review by three senior academics with expertise in higher education management and human resource development assessed content validity, leading to item refinement. Pilot testing with 25 staff members (not included in the main study) assessed item clarity and scale reliability, resulting in minor wording adjustments.

The final ten-item scale assessed perceptions across the following dimensions: (1) training's contribution to overall institutional growth; (2) productivity and efficiency enhancement; (3) teamwork and collaboration improvement; (4) service delivery quality enhancement; (5) positive impact on institutional performance; (6) innovation and problem-solving capability development; (7) organisational goal achievement; (8) reputation and competitiveness enhancement; (9) turnover reduction and stability improvement; and (10) leadership support for training as growth driver. Items employed five-point Likert response scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Scale reliability assessment yielded Cronbach's alpha of 0.89, exceeding conventional thresholds for acceptable internal consistency (Nunnally and Bernstein, 1994).

Staff category was measured through a single categorical item distinguishing teaching staff (academic faculty with primary responsibilities for instruction and research) from non-teaching staff (administrative, technical, and support personnel). This binary categorisation reflects the fundamental organisational distinction in higher education staffing while acknowledging that finer-grained categorisations (e.g., by academic rank or administrative function) might reveal additional nuance in future research.

3.5 Data Collection Procedures

Data collection employed self-administered questionnaires distributed to sampled respondents over a four-week period. Questionnaires were accompanied by information sheets explaining the study purpose, voluntary participation, confidentiality protections, and procedures for consent and withdrawal. Respondents returned completed questionnaires through designated collection points to enhance anonymity. Follow-up reminders were sent after two weeks to non-respondents, enhancing response rates. The final response rate was 100% of the targeted sample, reflecting effective sampling procedures and respondent engagement.

Several procedural measures addressed potential common method bias (Podsakoff et al., 2003). Psychological separation between predictor and criterion measures was achieved by positioning training experience items and institutional growth perception items in distinct questionnaire sections with intervening demographic items. Respondent anonymity was emphasised to reduce social desirability bias. Item wording was varied to reduce consistency motifs. While these procedural remedies cannot eliminate common method variance entirely, they represent best practices for cross-sectional survey research.

3.6 Analytical Approach

Data analysis proceeded through descriptive and inferential phases. Descriptive statistics characterised the distribution of institutional growth perceptions, including means, standard deviations, and distributional properties across the ten growth dimensions. These descriptive findings address the first research objective regarding staff perceptions of training's contribution to institutional growth.

Chi-square tests of independence were used to examine associations between staff category and institutional growth perceptions, addressing the second research objective regarding category moderation of growth perceptions. For each of the ten growth indicators, respondents were classified into agreement categories based on their responses, and chi-square statistics tested whether category membership was independent of agreement levels. This analytical approach is appropriate for examining associations between categorical variables and avoids assumptions required for parametric alternatives (Agresti, 2007).

Statistical significance was evaluated at the conventional $\alpha = .05$ threshold. However, recognising limitations of null hypothesis significance testing, we also report effect sizes (Cramér's V for chi-square tests) to characterise the practical magnitude of observed associations. Effect size interpretation followed Cohen's (1988) guidelines, with Cramér's V values of .10, .30, and .50 representing small, medium, and large effects respectively. This dual focus on statistical and practical significance provides a more complete characterisation of findings than significance testing alone (Wasserstein and Lazar, 2016).

4. Findings

4.1 Descriptive Analysis of Institutional Growth Perceptions

Staff demonstrated strongly positive perceptions across all ten institutional growth dimensions, providing initial support for the prediction that training investments are perceived as contributing to organisational capabilities and institutional advancement. Table 1 presents descriptive statistics for each growth indicator, ordered by mean rating from highest to lowest.

Mean ratings ranged from 3.95 to 4.14 on the five-point scale, with all means substantially exceeding the scale midpoint of 3.0. This pattern indicates robust staff

consensus that training contributes positively to institutional growth outcomes. The two highest-rated indicators—organisational goal achievement ($M = 4.14$, $SD = 1.02$) and reputation/competitiveness enhancement ($M = 4.14$, $SD = 1.02$)—directly address competitive positioning outcomes central to RBV predictions. Staff perceive training as contributing most strongly to strategic goal achievement and reputational advancement, outcomes that directly affect institutional competitive position.

The lowest-rated indicators—productivity enhancement ($M = 3.95$, $SD = 1.01$) and teamwork improvement ($M = 3.96$, $SD = 1.01$)—still substantially exceeded the scale midpoint, indicating positive perceptions even for lower-ranked dimensions. Standard deviations ranging from 0.98 to 1.08 indicate moderate response variability, suggesting that while central tendency is clearly positive, individual perceptions do vary around this central pattern.

Table 1: Descriptive Statistics: Training and Institutional Growth Perceptions

Institutional Growth Indicator	Mean	SD	Rank
Organisational goals achieved through training	4.14	1.02	1
Well-trained employees enhance reputation/competitiveness	4.14	1.02	1
Training positively impacts institutional performance	4.08	1.03	3
Training leads to improved innovation/problem-solving	4.07	1.04	4
Continuous training improves service delivery	4.07	0.98	4
Leadership supports training for institutional growth	4.03	1.08	6
Training reduces turnover, enhances stability	4.00	1.08	7
Training contributes to overall institutional growth	3.99	1.01	8
Training enhances teamwork and collaboration	3.96	1.01	9
Training improves productivity and efficiency	3.95	1.01	10

Note: $N = 198$. Scale: 1 = Strongly Disagree to 5 = Strongly Agree. SD = Standard Deviation.

The pattern of findings suggests that staff perceive training as contributing broadly to institutional growth outcomes, with particular strength in strategic and reputational dimensions. The strong consensus across indicators supports RBV predictions that training investments are perceived as building organisational capabilities that generate competitive advantage.

4.2 Staff Category and Institutional Growth Perceptions

Table 2 presents chi-square test results examining associations between staff category and training-institutional growth perceptions across the ten growth indicators. The predominant pattern is striking: nine of ten institutional growth indicators showed no statistically significant association with staff category. Only one significant association emerged, organisational goal achievement, while the remaining nine indicators showed non-significant patterns.

Table 2: Chi-Square Analysis: Staff Category and Institutional Growth Perceptions

Growth Indicator	Non-Teaching %	Teaching %	χ^2	p-value	V
Institutional growth	71.5	28.5	0.50	.481	.05
Productivity	69.9	30.1	0.23	.629	.03
Teamwork	69.8	30.2	0.28	.599	.04
Service delivery	72.1	27.9	1.41	.235	.08
Institutional performance	70.6	29.4	0.003	.955	.00
Innovation	70.5	29.5	0.00	.991	.00
Goal achievement	73.0	27.0	3.94	.047*	.14
Reputation	71.4	28.6	0.42	.516	.05
Turnover reduction	70.2	29.8	0.15	.702	.03
Leadership support	70.7	29.3	0.06	.801	.02

Note: * $p < .05$. Percentages represent proportions within the agreement category. V = Cramér's V effect size.

The single significant association observed was for organisational goal achievement ($\chi^2 = 3.94$, $p = .047$), where non-teaching staff demonstrated a stronger association between training and goal achievement (73.0%) compared to their teaching counterparts (27.0%). The effect size (Cramér's $V = .14$) indicates a small but meaningful association according to conventional interpretation guidelines (Cohen, 1988), suggesting that non-teaching staff, who are perhaps more directly involved in operational goal execution, perceive stronger linkages between training and strategic objective attainment.

Equally noteworthy is the predominant pattern of non-significant associations. Across nine of the ten growth indicators, encompassing productivity, teamwork, service delivery, institutional performance, innovation, reputation, turnover reduction, and leadership support, staff category showed no significant relationship with perceptions of training's contribution to institutional growth. Effect sizes for these non-significant associations were uniformly small (Cramér's V ranging from .00 to .08), indicating that observed differences are trivial in practical magnitude. This pattern of null findings yields important substantive information, namely that organisational growth perceptions are shared across staff categories rather than varying systematically by professional role.

This category-transcendent pattern stands in marked contrast to the individual-level training-performance findings obtained from companion analyses conducted at the same research site. At the individual level, significant staff category differences emerged across six of the ten performance dimensions, with teaching staff exhibiting attenuated training-performance relationships relative to non-teaching staff. The contrast between individual-level category-contingency and organisational-level category-transcendence suggests that different mechanisms operate across these analytical levels, a finding that carries important theoretical implications which are discussed in the following section.

5. Discussion

5.1 Training as Strategic Resource for Institutional Growth

The findings provide robust support for RBV predictions regarding training's contribution to organisational capability development and institutional growth. Staff

demonstrated strong consensus that training investments generate positive institutional outcomes across all ten growth dimensions examined. Mean ratings substantially exceeding the scale midpoint (all ≥ 3.95 on a 5-point scale) indicate that employees perceive training as building the organisational capabilities that enable institutional advancement—precisely the relationship predicted by RBV theory.

Particularly noteworthy is the elevation of strategic and competitive positioning outcomes among the highest-rated growth indicators. Organisational goal achievement ($M = 4.14$) and reputation/competitiveness enhancement ($M = 4.14$) emerged as the most strongly endorsed training-growth linkages. These dimensions directly address competitive advantage outcomes central to RBV theorising—the capacity to achieve strategic objectives and enhance competitive positioning relative to rival institutions. Staff perceptions thus align with RBV predictions that human capital development generates the distinctive capabilities that enable sustained competitive advantage (Barney, 1991; Wright et al., 2001).

The findings extend RBV application to higher education contexts that have received limited empirical attention in strategic human capital research. While RBV has been extensively tested in corporate settings, its applicability to public sector and professional organisations has been questioned (Hansen and Ferlie, 2016). The current findings suggest that RBV logic transfers to development-oriented university context, with staff perceiving training as building strategic capabilities that drive institutional advancement. This extends theoretical understanding of RBV boundary conditions while providing evidence relevant to higher education practitioners.

The development-oriented university context adds nuance to RBV interpretation. Unlike conventional universities focused primarily on academic excellence, development-focused universities pursue integrated missions encompassing community engagement and regional development alongside traditional academic functions (Tilak, 2008). Training investments at HEIs must build capabilities relevant to this distinctive mission configuration. The finding that staff perceive training as contributing broadly to institutional growth outcomes suggests that training programmes successfully address the multifaceted capability requirements of less-resourced university contexts.

5.2 Category-Transcendent Organisational Growth Perceptions

The predominant finding of this study is that nine of the ten growth indicators showed no significant association with staff category, suggesting that training's organisational growth benefits are perceived uniformly across professional categories. This category-transcendent pattern warrants careful theoretical interpretation, particularly in light of its marked contrast with the category-contingent effects documented at the individual level.

Social information processing theory (Salancik and Pfeffer, 1978) offers one interpretive framework. According to this perspective, individuals form attitudes and perceptions through social interpretation processes shaped by available information and social cues. Individual performance information is category-specific: teaching staff

observe and receive feedback about teaching and research performance, while non-teaching staff observe and receive feedback about administrative and operational performance. This categorical differentiation in performance information may explain why individual-level training-performance perceptions vary by staff category.

Organisational growth information, by contrast, operates differently. Institutional growth outcomes, reputation, competitive positioning, strategic goal achievement, are collective phenomena communicated through organisational channels accessible across professional categories. University-wide communications, strategic planning documents, leadership announcements, and shared discourse about institutional direction convey growth-relevant information regardless of recipients' categorical positions. This shared information environment may generate convergent interpretations of training's organisational contributions, even among employees whose individual-level training experiences differ.

Organisational identity processes may further explain perception convergence. Employees across categories share identification with the institution as a collective entity, potentially generating shared evaluations of factors affecting institutional welfare (Ashforth and Mael, 1989). Training's contribution to institutional growth—as opposed to individual performance, may be interpreted through this collective identity lens, producing similarity rather than differentiation across professional categories. The contrast between individual-contingent and organisational-transcendent patterns thus reflects the distinct identity referents engaged by individual versus organisational outcome perceptions.

The single significant category difference observed for goal achievement merits specific attention. Non-teaching staff demonstrated a stronger association between training and organisational goal achievement, which may reflect their more direct involvement in operational goal execution. Administrative and support staff typically engage closely with the institutional processes, procedures, and systems through which strategic objectives are implemented, and this proximate relationship to goal execution mechanisms likely heightens their awareness of training's contribution to strategic achievement. In contrast, teaching staff, who are relatively insulated from operational processes due to professional autonomy and disciplinary focus, may perceive weaker linkages between training and goal achievement, despite holding equivalent perceptions across other growth dimensions.

5.3 Multi-Level Implications: Individual Versus Organisational Training Effects

The divergent patterns observed across analytical levels, whereby individual effects are category-contingent while organisational effects are category-transcendent, carry important implications for training effectiveness theory and research. These findings challenge the prevailing assumption that training effects operate uniformly across levels and underscore the necessity of adopting multi-level analytical approaches to fully understand the returns on human capital investment.

At the individual level, training effects appear to be moderated by factors associated with professional category, including job characteristics, skill requirements, performance criteria, and transfer conditions that vary systematically between teaching and non-teaching roles. The category-specific nature of training needs, delivery methods, and application contexts generates differential performance outcomes across staff groups. These category-contingent individual effects suggest that training programmes should be differentiated to address the distinct capability requirements of each professional category.

At the organisational level, however, training effects appear to operate through collective mechanisms that generate shared perceptions across categorical boundaries. Whether through aggregated individual contributions, social information processing, organisational identity, or some combination of these mechanisms, training's institutional growth benefits are perceived similarly by both teaching and non-teaching staff. This category-transcendence indicates that training's organisational value proposition resonates broadly across the workforce, even when individual returns vary by professional role.

The distinction between individual and organisational effects also has implications for human capital emergence theory (Ployhart and Moliterno, 2011). Human capital emergence refers to the processes through which individual-level knowledge, skills, abilities, and other characteristics combine and interact to create collective capabilities at the unit or organisational level. The present findings suggest that emergence processes may attenuate the categorical differentiation evident at the individual level, thereby generating organisational capabilities and shared perceptions that transcend the heterogeneity characterising individual human capital. Further research examining specific emergence mechanisms would advance understanding of how individual training investments translate into collective organisational resources.

5.4 Practical Implications for Higher Education Management

The findings carry several practical implications for human resource development in higher education contexts. First, universities can communicate training's institutional growth contributions with confidence that messages will resonate across professional categories. Whether addressing teaching or non-teaching staff, institutional leaders can legitimately frame training investments as building capabilities that enhance productivity, innovation, reputation, and strategic goal achievement. The category-transcendent nature of organisational growth perceptions suggests that unified messaging strategies are appropriate despite categorical differentiation in individual training needs and returns.

Second, resource allocation decisions should account for the distinction between individual and organisational training returns. At the individual level, teaching staff showed attenuated training-performance relationships in companion analyses, suggesting potential for differentiated approaches to academic professional development. At the organisational level, both categories perceive equivalent growth

contributions, supporting continued broad-based training investment. Strategic resource allocation thus requires balancing individual-level differentiation with organisation-level integration—targeting training design to categorical needs while maintaining investment levels that generate institution-wide capability benefits.

Third, less-resourced universities can leverage training investments for their distinctive dual missions. The finding that staff perceive training as contributing to organisational growth suggests that training programmes successfully address capability requirements for both academic excellence and community engagement dimensions of development-oriented university missions. Continued investment in staff development supports the integrated capability building essential for development-oriented universities' societal contributions.

Fourth, the emphasis on goal achievement and reputation enhancement as the most strongly perceived growth contributions suggests attention to these dimensions when designing training interventions. Training programmes explicitly linked to strategic objectives and reputational enhancement may generate particularly strong stakeholder support, while demonstrating such linkages in evaluation and communication activities can strengthen the case for continued investment.

6. Conclusion

6.1 Summary of Contributions

This study examined relationships between training initiatives and perceived institutional growth at UDS, contributing RBV-based analysis to higher education training scholarship. The findings make several contributions to theoretical understanding and practical application.

Theoretically, the study extends Resource-Based View application to African higher education contexts, demonstrating that training investments generate perceived organisational resource advantages consistent with RBV predictions. Staff perceive training as building capabilities that enhance institutional productivity, innovation, competitiveness, and strategic goal achievement—precisely the competitive advantage outcomes RBV predicts from strategic human capital investment. The transferability of RBV logic to development-oriented university contexts characterised by distinctive missions and resource constraints extends understanding of the theory's boundary conditions.

The study's most distinctive contribution concerns the distinction between individual and organisational levels of analysis. While individual-level training-performance relationships vary significantly by staff category, organisational-level growth perceptions show category-transcendent uniformity. This divergent pattern suggests that different mechanisms operate across analytical levels, with organisational effects potentially generated through collective sensemaking processes that smooth categorical differentiation present at the individual level. The finding highlights the

importance of multi-level analysis in training effectiveness research and challenges assumptions that effects operate uniformly across levels.

Practically, the findings inform strategic human resource development in higher education. Universities can leverage training investments for organisational growth outcomes regardless of staff category composition, with uniform organisational benefits complementing differentiated individual returns. For development-oriented universities operating under resource constraints, the findings encourage continued training investment as a mechanism for building institution-wide capabilities recognised across the workforce as contributing to institutional advancement.

6.2 Limitations

Several limitations warrant acknowledgement when interpreting the findings.

First, the cross-sectional design precludes causal inference. While staff perceive training as contributing to institutional growth, we cannot establish that training investments cause growth outcomes. Longitudinal designs tracking training investment and growth trajectories over time, or quasi-experimental designs comparing institutions with varying investment levels, would strengthen causal inference.

Second, the study relies on perceptual measures of institutional growth rather than objective outcome indicators. Staff perceptions of training's contributions may not correspond directly to actual institutional performance. Future research incorporating objective growth indicators—enrolment trends, research output, quality rankings, stakeholder satisfaction surveys—would complement perceptual assessments.

Third, the single-institution focus, while enabling deep contextual understanding, limits generalisability. Findings from a development-oriented university in Ghana may not transfer to conventional universities, private institutions, or universities in other national contexts. Multi-institutional studies spanning varied institutional types and national settings would enhance external validity.

Fourth, common method variance may inflate observed relationships due to same-source, same-time measurement of training experiences and growth perceptions. While procedural remedies were employed, prospective studies measuring training investment objectively and growth outcomes subsequently would address this limitation more definitively.

Fifth, the binary staff category measure, while reflecting fundamental organisational distinctions, may obscure more nuanced categorical effects. Finer-grained categorisation by academic rank, administrative function, or years of experience might reveal additional moderating patterns not captured in the current analysis.

6.3 Future Research Directions

Several directions for future research emerge from the current findings.

First, research examining mechanisms underlying category-transcendent organisational perceptions would advance theoretical understanding. Studies investigating social information processing, organisational identity, and collective

sensemaking as potential mechanisms could illuminate how training generates shared organisational growth perceptions across categorically distinct employees.

Second, multi-level studies simultaneously examining individual and organisational outcomes with appropriate hierarchical modelling would enable more rigorous testing of level-differentiated effects. Such designs could examine whether individual training effects aggregate into organisational outcomes or whether organisational effects operate through mechanisms distinct from aggregation.

Third, comparative studies across institutional types, development-oriented versus conventional universities, public versus private institutions, research-intensive versus teaching-focused universities—would test the generalisability of current findings and identify contextual moderators of training-growth relationships.

Fourth, longitudinal designs tracking training investment and institutional outcomes over time would enable stronger causal inference while illuminating temporal dynamics of training effects. Understanding how quickly training investments translate into perceived growth outcomes, and how durable such perceptions prove over time, would inform investment timing and evaluation practices.

Fifth, research examining specific training programme characteristics that generate organisational growth perceptions would inform programme design. Understanding which training content domains, delivery methods, and implementation practices generate strongest growth perceptions could guide evidence-based programme development.

6.4 Concluding Observations

This study demonstrates that staff at UDS perceive training investments as contributing positively to institutional growth outcomes across multiple dimensions. These perceptions are remarkably uniform across professional categories, despite documented categorical variation in individual-level training returns. The pattern suggests that training's organisational benefits operate through collective mechanisms generating shared perceptions that transcend professional boundaries.

For UDS pursuing distinctive missions within resource constraints, the findings provide encouraging evidence that training investments generate recognised institutional value. Staff perceive training as building the capabilities necessary for institutional advancement, competitive positioning, and strategic goal achievement. This perception, shared across the workforce, constitutes an important resource in itself—a collective understanding that human capital investment contributes to institutional welfare and warrants continued priority in resource allocation decisions.

The Resource-Based View, developed to explain competitive advantage in corporate contexts, demonstrates theoretical utility in African higher education. Training investments that develop valuable, rare, and difficult-to-replicate human capital generate perceived organisational capabilities that staff recognise as contributing to institutional growth. As universities worldwide confront intensifying pressures to demonstrate value and achieve strategic objectives, understanding how human capital investments

contribute to organisational capability development remains essential for both theory and practice.

Creative Commons License Statement

This research work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0>. To view the complete legal code, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode.en>. Under the terms of this license, members of the community may copy, distribute, and transmit the article, provided that proper, prominent, and unambiguous attribution is given to the authors, and the material is not used for commercial purposes or modified in any way. Reuse is only allowed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Author(s)

Kassim Bawah Abdallah holds a master's degree and serves as a Senior Assistant Registrar and School Officer at the School of Medicine, UDS, Tamale, Ghana. His professional interests span management, public administration, and staff development in higher education. His work reflects a commitment to effective institutional administration, organisational development, and the advancement of administrative practices within higher education institutions.

Rashid Yakubu is a Chevening Scholar and a Senior Assistant Registrar and Faculty Officer at the Faculty of Education, UDS, Tamale, Ghana. With a master's degree and extensive expertise in university administration, human resource management and social development. He is committed to advancing effective university governance, policy implementation, and regulatory compliance. His broader areas of interest include public policy development, international diplomacy, global peace and security, and promoting gender equality and human rights development.

References

- Acemoglu, D. and Pischke, J.-S. (1999), "Beyond Becker: Training in imperfect labour markets", *The Economic Journal*, Vol. 109 No. 453, pp. 112-142. Retrieved from [ISTOR](#).
- Agresti, A. (2007), *An Introduction to Categorical Data Analysis*, 2nd ed., John Wiley & Sons, Hoboken, NJ. Retrieved from [Wiley Online Library](#).

- Aguinis, H. and Kraiger, K. (2009), "Benefits of training and development for individuals and teams, organizations, and society", *Annual Review of Psychology*, Vol. 60, pp. 451-474. <https://doi.org/10.1146/annurev.psych.60.110707.163505>
- Altbach, P.G., Reisberg, L. and de Wit, H. (Eds.) (2019), *Responding to Massification: Differentiation in Postsecondary Education Worldwide*, Sense Publishers, Rotterdam. Retrieved from [Springer](#).
- Argyris, C. and Schön, D.A. (1978), *Organizational Learning: A Theory of Action Perspective*, Addison-Wesley, Reading, MA. Retrieved from [Google Books](#).
- Ashforth, B.E. and Mael, F. (1989), "Social identity theory and the organization", *Academy of Management Review*, Vol. 14 No. 1, pp. 20-39. <https://doi.org/10.5465/AMR.1989.4278999>
- Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120. Retrieved from [SSRN](#).
- Barney, J.B. and Clark, D.N. (2007), *Resource-Based Theory: Creating and Sustaining Competitive Advantage*, Oxford University Press, Oxford. <https://doi.org/10.1093/oso/9780199277681.001.0001>
- Becker, G.S. (1964), *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education*, University of Chicago Press, Chicago, IL. Retrieved from [National Bureau of Economic Research](#).
- Berman, E.M., Bowman, J.S., West, J.P. and Van Wart, M.R. (2021), *Human Resource Management in Public Service: Paradoxes, Processes, and Problems*, 6th ed., CQ Press, Thousand Oaks, CA. Retrieved from [ResearchGate](#).
- Cloete, N., Maassen, P. and Bailey, T. (Eds.) (2015), *Knowledge Production and Contradictory Functions in African Higher Education*, African Minds, Cape Town. Retrieved from africanminds.co.za.
- Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed., Lawrence Erlbaum, Hillsdale, NJ. <https://doi.org/10.4324/9780203771587>
- Cohen, W.M. and Levinthal, D.A. (1990), "Absorptive capacity: A new perspective on learning and innovation", *Administrative Science Quarterly*, Vol. 35 No. 1, pp. 128-152. <https://doi.org/10.2307/2393553>
- Crook, T.R., Todd, S.Y., Combs, J.G., Woehr, D.J. and Ketchen, D.J. (2011), "Does human capital matter? A meta-analysis of the relationship between human capital and firm performance", *Journal of Applied Psychology*, Vol. 96 No. 3, pp. 443-456. <https://doi.org/10.1037/a0022147>
- Crossan, M.M., Lane, H.W. and White, R.E. (1999), "An organizational learning framework: From intuition to institution", *Academy of Management Review*, Vol. 24 No. 3, pp. 522-537. <https://doi.org/10.2307/259140>
- Enders, J. and de Weert, E. (Eds.) (2009), *The Changing Face of Academic Life: Analytical and Comparative Perspectives*, Palgrave Macmillan, Basingstoke. Retrieved from [Springer](#).
- Garavan, T., McCarthy, A., Lai, Y., Murphy, K., Sheehan, M. and Carbery, R. (2021), "Training and organisational performance: A meta-analysis of temporal,

- institutional and organisational context moderators", *Human Resource Management Journal*, Vol. 31 No. 1, pp. 93-119. <https://doi.org/10.1111/1748-8583.12284>
- Grant, R.M. (1996), "Toward a knowledge-based theory of the firm", *Strategic Management Journal*, Vol. 17 No. S2, pp. 109-122. Retrieved from <https://doi.org/10.1002/smj.4250171110>
- Guest, D., Michie, J., Conway, N. and Sheehan, M. (2003), "Human resource management and corporate performance in the UK", *British Journal of Industrial Relations*, Vol. 41 No. 2, pp. 291-314. <https://doi.org/10.1111/1467-8543.00273>
- Hansen, J.R. and Ferlie, E. (2016), "Applying strategic management theories in public sector organizations: Developing a typology", *Public Management Review*, Vol. 18 No. 1, pp. 1-19. <https://doi.org/10.1080/14719037.2014.957339>
- Kaburise, J.B.K. (2003), "New variations on the African development university: The UDS experience with developing an alternative approach to tertiary education", paper presented at the Regional Training Conference on Improving Tertiary Education in Sub-Saharan Africa: Things That Work, Accra, 23-25 September.
- Marginson, S. (2022), "Space and scale in higher education: The glonacal agency heuristic revisited", *Higher Education*, Vol. 84 No. 6, pp. 1365-1382. <https://doi.org/10.1007/s10734-022-00955-0>
- Materu, P. (2007), *Higher Education Quality Assurance in Sub-Saharan Africa: Status, Challenges, Opportunities, and Promising Practices*, World Bank Working Paper No. 124, World Bank, Washington, DC. Retrieved from [Springer](#).
- Mohamedbhai, G. (2014), "Massification in higher education institutions in Africa: Causes, consequences and responses", *International Journal of African Higher Education*, Vol. 1 No. 1, pp. 59-83. <https://doi.org/10.6017/ijahe.v1i1.5644>
- Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, 3rd ed., McGraw-Hill, New York, NY. Retrieved from [Google Books](#).
- Penrose, E. (1959), *The Theory of the Growth of the Firm*, John Wiley, New York, NY. Retrieved from [Google Books](#).
- Pfeffer, J. (1994), *Competitive Advantage Through People: Unleashing the Power of the Work Force*, Harvard Business School Press, Boston, MA. Retrieved from [Google Books](#).
- Pinheiro, R. and Stensaker, B. (2014), "Designing the entrepreneurial university: The interpretation of a global idea", *Public Organization Review*, Vol. 14 No. 4, pp. 497-516. <https://doi.org/10.1007/s11115-013-0241-z>
- Ployhart, R.E. and Moliterno, T.P. (2011), "Emergence of the human capital resource: A multilevel model", *Academy of Management Review*, Vol. 36 No. 1, pp. 127-150. Retrieved from <https://www.jstor.org/stable/29765018>
- Ployhart, R.E., Nyberg, A.J., Reilly, G. and Maltarich, M.A. (2014), "Human capital is dead; long live human capital resources!", *Journal of Management*, Vol. 40 No. 2, pp. 371-398. <https://doi.org/10.1177/0149206313512152>
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: A critical review of the literature and

- recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Rindfleisch, A., Malter, A.J., Ganesan, S. and Moorman, C. (2008), "Cross-sectional versus longitudinal survey research: Concepts, findings, and guidelines", *Journal of Marketing Research*, Vol. 45 No. 3, pp. 261-279. <https://doi.org/10.1509/jmkr.45.3.261>
- Salancik, G.R. and Pfeffer, J. (1978), "A social information processing approach to job attitudes and task design", *Administrative Science Quarterly*, Vol. 23 No. 2, pp. 224-253. <https://doi.org/10.2307/2392563>
- Salas, E., Tannenbaum, S.I., Kraiger, K. and Smith-Jentsch, K.A. (2012), "The science of training and development in organizations: What matters in practice", *Psychological Science in the Public Interest*, Vol. 13 No. 2, pp. 74-101. <https://doi.org/10.2307/23484697>
- Schultz, T.W. (1961), "Investment in human capital", *American Economic Review*, Vol. 51 No. 1, pp. 1-17. Retrieved from [JSTOR](https://www.jstor.org/stable/1912512).
- Scott, W.R. (2014), *Institutions and Organizations: Ideas, Interests, and Identities*, 4th ed., Sage, Thousand Oaks, CA. Retrieved from [Google Books](https://books.google.com/books?id=9v3tDwAAQAAJ).
- Senge, P.M. (1990), *The Fifth Discipline: The Art and Practice of the Learning Organization*, Doubleday/Currency, New York, NY. Retrieved from [Google Books](https://books.google.com/books?id=9v3tDwAAQAAJ).
- Steinert, Y., Mann, K., Centeno, A., Dolmans, D., Spencer, J., Gelula, M. and Prideaux, D. (2006), "A systematic review of faculty development initiatives designed to improve teaching effectiveness in medical education", *Medical Teacher*, Vol. 28 No. 6, pp. 497-526. <https://doi.org/10.1080/01421590600902976>
- Sung, S.Y. and Choi, J.N. (2014), "Do organizations spend wisely on employees? Effects of training and development investments on learning and innovation in organizations", *Journal of Organizational Behavior*, Vol. 35 No. 3, pp. 393-412. <https://doi.org/10.1002/job.1897>
- Teferra, D. and Altbach, P.G. (2004), "African higher education: Challenges for the 21st century", *Higher Education*, Vol. 47 No. 1, pp. 21-50. <https://doi.org/10.1023/B:HIGH.0000009822.49980.30>
- Tharenou, P., Saks, A.M. and Moore, C. (2007), "A review and critique of research on training and organizational-level outcomes", *Human Resource Management Review*, Vol. 17 No. 3, pp. 251-273. <https://doi.org/10.1016/j.hrmr.2007.07.004>
- Tight, M. (2022), "Globalization and internationalization as frameworks for higher education research", *Research Papers in Education*, Vol. 37 No. 1, pp. 52-74. <https://doi.org/10.1080/02671522.2019.1633560>
- Tilak, J.B.G. (2008), "Higher education: A public good or a commodity for trade?", *Prospects*, Vol. 38 No. 4, pp. 449-466. Retrieved from [ResearchGate](https://www.researchgate.net/publication/266411111).
- Walsh, J.P. and Ungson, G.R. (1991), "Organizational memory", *Academy of Management Review*, Vol. 16 No. 1, pp. 57-91. <https://doi.org/10.2307/258607>
- Wasserstein, R.L. and Lazar, N.A. (2016), "The ASA's statement on p-values: Context, process, and purpose", *The American Statistician*, Vol. 70 No. 2, pp. 129-133. Retrieved from <https://doi.org/10.1080/00031305.2016.1154108>

- Wernerfelt, B. (1984), "A resource-based view of the firm", *Strategic Management Journal*, Vol. 5 No. 2, pp. 171-180. Retrieved from [JSTOR](#).
- Wright, P.M., Coff, R. and Moliterno, T.P. (2014), "Strategic human capital: Crossing the great divide", *Journal of Management*, Vol. 40 No. 2, pp. 353-370. <https://doi.org/10.1177/0149206313518437>
- Wright, P.M., Dunford, B.B. and Snell, S.A. (2001), "Human resources and the resource based view of the firm", *Journal of Management*, Vol. 27 No. 6, pp. 701-721. <https://doi.org/10.1177/014920630102700607>
- Yamane, T. (1967), *Statistics: An Introductory Analysis*, 2nd ed., Harper and Row, New York, NY. Retrieved from [Google Books](#).