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Leveraging Promotion for Innovation: Patents and Commercialisation in Nigerian Universities

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Abstract

Universities are increasingly expected to contribute not only to teaching and publication output but also to innovation, industry relevance, technological development, and societal transformation. However, many university performance management systems continue to reward academic staff mainly for years of service and publication counts, while giving weaker attention to patents and commercializable research. This paper examines impact-oriented human resource management as a strategic approach for linking lecturer performance to patents by leveraging promotion criteria as a primary motivator for academic innovation. Adopting a conceptual and framework-development approach, the paper synthesises literature on strategic human resource management, human capital development, and university technology transfer. The article argues that universities can significantly strengthen societal impact when lecturer appraisal and promotion policies are deliberately aligned with innovation-oriented outputs. The paper proposes the University Impact-Oriented Lecturer Performance Framework, explaining how these HRM inputs influence lecturer motivation and university impact outcomes. It recommends a balanced performance model that utilises promotion as a strategic motivator to reward scholarly excellence, patents, and commercializable outputs without undermining academic freedom.

Keywords: Human Resource Management, Lecturer Performance, Patents, University Innovation, Research Commercialisation, Technology Transfer, Academic Appraisal, Nigeria.

Introduction

Universities occupy a central position in national development because they produce knowledge, train skilled labour, develop professional competence, support research and contribute to the formation of social, scientific and technological capacity. In the classical understanding of higher education, the university performs three broad functions: teaching, research and service. However, the development demands of contemporary societies have expanded the expectations placed on universities. Governments, industries, communities and development actors now expect universities to generate research that can solve practical problems, improve production systems, influence policy, support entrepreneurship and produce innovations that can be translated into goods, services, processes and social interventions.

This shift does not reduce the importance of scholarship. Rather, it challenges universities to rethink how scholarship is evaluated, rewarded and connected to public value. A university may produce many journal articles and still have limited impact if those articles do not influence practice, policy, technology, community development or industry problem-solving. Similarly, a lecturer may publish regularly but remain disconnected from the innovation needs of society. The question, therefore, is not whether publication should be abandoned, but whether performance

management should continue to treat publication counts as the dominant measure of academic productivity while neglecting patents, prototypes, policy-relevant studies, community innovations and commercializable research outputs.

Human resource management is central to this issue because lecturer behaviour is shaped by the systems through which universities recruit, evaluate, promote, motivate, support and reward academic staff. Strategic human resource management argues that people-management systems should be aligned with institutional goals and should influence employee ability, motivation and opportunity to perform (Appelbaum et al., 2000; Jiang et al., 2012). If universities claim to desire innovation, entrepreneurship, technology transfer and societal relevance, their HRM systems must reward the academic behaviours that produce those outcomes. A university cannot strongly desire patents while promoting only publication volume. It cannot desire industry relevance while treating industry collaboration as secondary. It cannot desire community impact while failing to recognise applied problem-solving as academic work. In many developing economies, including Nigeria, the need for impact-oriented university research is particularly urgent. Universities operate in societies facing unemployment, weak industrial capacity, food insecurity, health challenges, infrastructure gaps, educational inequality, public-sector inefficiency, environmental pressures and low commercialisation of research. These challenges create strong opportunities for lecturers to produce research that leads to patents, practical models, commercial products, training systems, process improvements, policy briefs, curriculum innovations and community interventions. Yet the performance systems in many universities still appear more comfortable with routine measures of academic work than with the more demanding task of converting knowledge into usable value.

The global literature on university technology transfer shows that patents, licensing, spin-offs, collaborative research and consultancy can serve as channels through which universities contribute to innovation and economic development (Bozeman, 2000; Perkmann et al., 2013; Siegel et al., 2003). However, this literature also cautions that commercialisation does not happen automatically. It requires institutional support, technology-transfer offices, industry linkages, intellectual property policies, incentive systems, entrepreneurial culture and researchers who are motivated to move beyond publication into translation and implementation (Bercovitz & Feldman, 2008; Lockett & Wright, 2005). These requirements make the issue fundamentally a human resource management question as much as a research policy question.

The challenge is not to turn every lecturer into a businessperson or to force every discipline into patent production. Humanities, education, social sciences, management, medicine, engineering, agriculture and natural sciences do not produce impact in identical ways. A chemistry lecturer may contribute through patents and laboratory prototypes; an education lecturer may contribute through validated instructional models; an entrepreneurship lecturer may develop enterprise incubation frameworks; a public administration scholar may produce policy instruments; a health scholar may generate community intervention protocols. A responsible performance system must therefore recognise different forms of impact while still insisting that academic work should contribute to knowledge, practice and society.

This paper examines how human resource management in universities can be reconfigured to link lecturer performance with patents and commercializable products by positioning promotion as a strategic motivator. The article argues for an impact-oriented performance management system that evaluates lecturers by the tangible value their work creates. The contribution of the paper is the development of a University Impact-Oriented Lecturer Performance Framework, which explains how aligning promotion policies can stimulate lecturer innovation behaviour and technology transfer.

The performance of lecturers in universities is often assessed through teaching load, number of publications, supervision duties, committee work, years of service, conference attendance and administrative assignments. These indicators are important, but they are incomplete. They do not sufficiently capture whether academic work has generated patents, produced commercializable outputs, solved industry problems, influenced public policy, improved community practice or created innovations capable of wider adoption. As a result, universities may reward academic activity without adequately rewarding academic impact.

A major problem is that many academic appraisal systems create behavioural signals that encourage lecturers to pursue what is easily counted rather than what is deeply useful. Publication numbers may increase, yet the social and economic value of research may remain weak if lecturers are not encouraged to identify real problems, engage industry, protect intellectual property, develop prototypes or translate findings into usable solutions. This creates a gap between university research productivity and national development needs. It also weakens the capacity of universities to become engines of innovation, entrepreneurship and regional development.

Another problem is the weak integration of HRM systems with university innovation strategy. Universities may establish entrepreneurship centres, research directorates, innovation hubs or technology-transfer units, yet lecturer promotion criteria may remain largely traditional. When appraisal and promotion do not recognise patents, prototypes, industry-funded projects, commercialisation pathways or problem-solving outputs, lecturers may rationally focus on conventional outputs that are more likely to secure career progression. In this situation, innovation remains an institutional slogan rather than a performance-driven behaviour.

There is also the risk of designing performance systems poorly. If universities simply impose patent quotas or commercialisation targets without providing funding, laboratories, mentoring, intellectual property support, industry access and fair evaluation criteria, lecturers may become frustrated or may engage in symbolic compliance. Similarly, if patents and commercialisation are rewarded without ethical safeguards, universities may encourage low-quality patenting, inflated claims, predatory collaboration or neglect of basic research. The problem is therefore not merely the absence of impact measures, but the absence of balanced, fair and context-sensitive HRM systems that connect academic performance with genuine public value.

This paper responds to this problem by developing a conceptual framework for impact-oriented HRM in universities. It argues that lecturer performance should be tied to patents, commercializable outputs and problem-solving scholarship through a balanced system of appraisal, support, rewards, promotion criteria, IP governance and institutional partnerships.

This paper aims to examine how human resource management in universities can be strategically designed to link lecturer performance with patents, commercializable products and problem-solving scholarship for stronger institutional and societal impact. Specifically, the paper seeks to clarify the concepts of impact-oriented HRM, lecturer performance, patents, commercializable outputs and problem-solving scholarship; examine the limitations of traditional lecturer performance appraisal systems in relation to university impact; analyse how HRM practices can motivate lecturers toward patents, commercializable products, industry collaboration and applied research; develop a conceptual framework linking university HRM practices to lecturer innovation behaviour and societal impact; discuss the practical, policy and institutional implications of impact-oriented lecturer performance management; and identify challenges, safeguards and recommendations for implementation in Nigerian and developing-economy universities. The paper is guided by six research questions. First, how can impact-oriented HRM be understood within the context of university lecturer performance? Second, what limitations exist in traditional academic performance appraisal systems? Third, how can patents, commercializable products and problem-solving papers be integrated into lecturer performance management? Fourth, what theoretical explanations support the relationship between HRM practices and lecturer innovation behaviour? Fifth, what framework can guide universities in linking lecturer appraisal, promotion and rewards to societal impact? Sixth, what safeguards are needed to ensure that impact-oriented performance systems remain fair, ethical and academically balanced?

Conceptual Clarification

Human Resource Management in Universities

Human resource management refers to the policies, practices and systems through which an organisation attracts, develops, evaluates, motivates and retains its workforce. In universities, HRM applies to academic staff, administrative staff, technical staff and professional support personnel. For lecturers, HRM includes recruitment, appointment, promotion, workload allocation, research support, professional development, appraisal, compensation, sabbatical arrangements, recognition and disciplinary processes.

University HRM differs from conventional corporate HRM because academic work involves intellectual autonomy, disciplinary diversity, peer review, academic freedom and long-term knowledge creation. However, this does not mean that university HRM should be passive or purely bureaucratic. Strategic HRM in universities should align lecturer behaviour with institutional mission, teaching quality, research excellence, innovation, community engagement and national development. The central HRM question is therefore: what behaviours does the university reward, and what forms of academic contribution does it make visible? Armstrong and Taylor (2020) emphasise that HRM is most useful when it connects people-management practices to organisational purpose rather than treating staff administration as a routine clerical activity.

Impact-Oriented HRM

Impact-oriented HRM refers to people-management systems that deliberately encourage employees to produce outcomes that create measurable or demonstrable value beyond routine task completion. In the university context, it means designing lecturer appraisal, promotion, recognition and support systems around outputs that contribute to knowledge, teaching quality, innovation, industry relevance, policy improvement and societal problem-solving. Impact-oriented HRM does not reduce scholarship to commercial income. Rather, it broadens academic evaluation by recognising that useful academic work may take different forms. These include peer-reviewed publications, patents, prototypes, policy papers, open educational resources, community interventions, standards, manuals, training models, industry reports, curriculum innovations, social enterprise models and commercially viable products. The aim is to reward academic work that is rigorous and useful.

Lecturer Performance

Lecturer performance refers to the extent to which academic staff fulfil teaching, research, supervision, community service, innovation and institutional responsibilities. Traditional lecturer performance often emphasises teaching delivery, student supervision, publication output, professional conduct and committee assignments. An impact-oriented understanding expands the concept to include the lecturer's contribution to solving problems, generating intellectual property, attracting research partnerships, producing usable knowledge, mentoring student innovators and translating research into practice.

This expanded view is consistent with modern performance management, which treats performance not merely as activity but as contribution to organisational goals (Aguinis, 2019). In universities, lecturer performance should therefore be evaluated through a balanced portfolio of scholarly quality, teaching effectiveness, research relevance, innovation output, professional service and societal impact.

Patents and Intellectual Property Outputs

A patent is a legal right granted for an invention that is new, useful and non-obvious, depending on the jurisdiction. In universities, patentable outputs may arise from research in engineering, agriculture, medicine, natural sciences, computing, environmental science, education technology, industrial design, biotechnology and other applied fields. However, patents should not be treated as the only indicator of innovation because not all disciplines produce patentable inventions, and not every valuable innovation requires patent protection.

For lecturer performance, patents should be understood as one category of intellectual property output. Other categories may include utility models, industrial designs, copyright-protected instructional materials, software, databases, technical manuals, creative works, trademarks, plant varieties and process innovations. The World Intellectual Property Organisation (n.d.) emphasises that university IP policies should clarify issues such as ownership, disclosure, commercialisation, benefit-sharing and institutional procedures. These issues are directly relevant to any university that intends to make patents part of lecturer performance evaluation.

Commercializable Products

Commercializable products are research-based outputs that have potential for market adoption, licensing, enterprise creation, institutional use or industry application. They may include laboratory prototypes, educational tools, software applications, training packages, agricultural inputs, engineering devices, health products, business models, process improvements, diagnostic tools, digital platforms or social innovations. Commercializability does not mean that the

product has already generated profit. It means that the output has moved beyond abstract idea into a form that can be tested, protected, validated, adopted, licensed or scaled.

In universities, commercializable products require a supportive ecosystem. Lecturers need research funding, prototype development support, market validation, IP protection, incubation, business development assistance and industry partnerships. Without these supports, performance targets for commercialisation may become unrealistic.

Problem-Solving Scholarship

Problem-solving scholarship refers to academic work that is designed to address identifiable problems in society, industry, government, education, health, business, environment or community life. It includes papers that do not merely satisfy publication requirements but provide practical insights, models, frameworks, interventions, evidence, policy recommendations or operational solutions. Such scholarship may be empirical, conceptual, design-based, policy-oriented, technical or community-engaged.

This concept is especially important for disciplines where patents may be less relevant. A lecturer in educational management may not produce a machine patent, but may develop a school management framework that improves foundational education. A lecturer in entrepreneurship may produce a commercialisation model for SMEs. A lecturer in sociology may produce evidence for reducing youth violence. These are valid forms of impact if they are rigorous, documented and adopted by relevant users.

Strategic HRM and Performance Alignment

Strategic HRM emphasises the alignment of HR practices with organisational goals. It argues that employee behaviour is shaped by recruitment, training, appraisal, rewards, leadership and work design. When these practices are internally consistent and aligned with strategy, they can improve organisational performance (Jiang et al., 2012). In universities, this means that if innovation and societal impact are institutional goals, they must be embedded into lecturer performance criteria.

The problem in many universities is that strategic goals and HR systems may not be properly aligned. A university may desire industry collaboration but fail to reward lecturers who develop industry partnerships. It may desire patents but lack an IP disclosure process. It may desire problem-solving research but promote staff mainly through publication counts. Strategic HRM suggests that such misalignment weakens performance because employees respond more strongly to actual reward structures than to official statements.

Academic Performance Management and the Limits of Publication Counts

Publication remains a central indicator of academic performance because it reflects contribution to knowledge, peer recognition and scholarly communication. However, publication counts alone are inadequate measures of academic value. Research assessment reform movements such as the San Francisco Declaration on Research Assessment and the Leiden Manifesto caution against narrow reliance on journal-based metrics and emphasise responsible, contextual and qualitative evaluation of research contributions (Hicks et al., 2015; San Francisco Declaration on Research Assessment, 2012).

This is important for universities seeking impact. If academic performance is assessed mainly by number of papers, lecturers may prioritise quantity, journal placement or promotion compliance over problem relevance and knowledge utilisation. A problem-solving paper that influences policy or industry practice may be more valuable to society than several papers with little practical engagement. Therefore, the issue is not to remove publications from evaluation, but to locate publications within a broader impact portfolio.

University Technology Transfer and Commercialisation

Technology transfer refers to the process through which knowledge, inventions, techniques or research outputs move from universities to users such as firms, government agencies, communities or entrepreneurs. It may occur through licensing, patents, consultancy, contract research, start-ups, spin-offs, joint projects, training, publications, informal

networks and personnel mobility (Bozeman, 2000; Perkmann et al., 2013). Commercialisation is one route within this broader technology-transfer process.

Studies on university-industry collaboration show that commercialisation is influenced by institutional support, incentives, researcher orientation, industry absorptive capacity and technology-transfer office effectiveness (Siegel et al., 2003). Patents and licenses may be important, but they are not the only channels through which universities create impact. Collaborative research, consulting and informal engagement may sometimes transfer knowledge more effectively than formal licensing, especially in contexts where industry is still developing.

Patents, Prototypes and Academic Incentives

Patents can signal that university research has produced potentially useful inventions. However, patenting requires more than scientific knowledge. It requires novelty assessment, legal support, funding, disclosure procedures, IP ownership rules and commercialisation strategy. Research on university technology transfer shows that academic inventors often need institutional encouragement and administrative support to move inventions toward protection and application (Bercovitz & Feldman, 2008; Jensen & Thursby, 2001).

This creates a clear HRM implication. If lecturers are expected to produce patents, the university must create performance conditions that make patenting possible. These conditions include training on intellectual property, support for invention disclosure, access to prototype grants, workload flexibility, research assistants, collaboration with industry and reward systems that recognise both successful patents and serious commercialisation attempts. Without these mechanisms, patent targets may punish lecturers for institutional weaknesses beyond their control.

Commercializable Research and University Entrepreneurship

University entrepreneurship refers to the processes through which academic knowledge contributes to venture creation, spin-offs, licensing, consultancy, industry collaboration and innovation ecosystems. Literature on university entrepreneurship shows that universities can generate economic and social value when research outputs are connected to entrepreneurial pathways (Rothaermel et al., 2007). However, commercialisation depends on resources, capabilities, market access and institutional culture (Lockett & Wright, 2005).

In developing economies, university entrepreneurship may require context-sensitive interpretation. Many universities may not immediately produce high-technology spin-offs at the level of advanced research economies. However, they can produce locally useful innovations in agriculture, education, health, digital services, vocational training, small-scale manufacturing, community development and public administration. Commercializable research in Nigeria should therefore include both advanced technology and practical local innovations.

Problem-Solving Papers and Societal Impact

Problem-solving papers are research outputs that address identifiable practical problems and provide usable recommendations, frameworks, tools, models or interventions. Such papers are important because not all impact passes through patents or commercial products. Some of the most important contributions of universities are policy, educational, managerial, social and institutional in nature. For example, a paper on improving primary school management may influence educational administration; a paper on SME financing may guide development agencies; a paper on public health behaviour may improve community intervention design.

The challenge is that problem-solving scholarship is sometimes undervalued if it is not published in prestigious journals or if its impact is not immediately measurable through citations. A balanced HRM system should therefore include evidence of use, such as policy adoption, training application, industry reference, community implementation, media translation, stakeholder endorsement, curriculum integration or measurable practice improvement. This approach is consistent with responsible research assessment because it evaluates research according to context and purpose rather than relying on a single metric.

Reward Systems and Lecturer Innovation Behaviour

Reward systems influence what employees consider valuable and worth repeating. In universities, promotion, recognition, research grants, reduced teaching load, awards, leadership opportunities and access to resources all function as rewards. Expectancy theory suggests that employees are more likely to direct effort toward outcomes they believe will be rewarded, while self-determination theory reminds institutions that motivation is strengthened when competence, autonomy and meaningful purpose are supported (Deci & Ryan, 2000; Vroom, 1964).

If university rewards are tied mainly to publication volume, lecturers will focus on publication volume. If they are tied also to patents, prototypes, commercializable products, industry-funded research and problem-solving outputs, lecturers are more likely to allocate effort toward impact-oriented work. However, reward systems must be fair and credible. If commercialisation rewards are captured by a few disciplines, lecturers in less patent-intensive fields may perceive injustice. Therefore, reward systems should combine financial and non-financial incentives with peer review, disciplinary sensitivity, transparency and responsible metrics.

Theoretical Framework

This paper is anchored on three complementary theories: Ability-Motivation-Opportunity theory, Resource-Based View and Triple Helix theory. These theories explain how HRM practices can influence lecturer behaviour, how lecturer knowledge becomes a strategic university resource and how university impact depends on interaction among universities, industry and government.

Ability-Motivation-Opportunity Theory

Ability-Motivation-Opportunity theory explains that employee performance improves when individuals have the ability to perform, the motivation to perform and the opportunity to perform (Appelbaum et al., 2000). Ability is developed through recruitment, training, mentoring and professional development. Motivation is shaped by rewards, recognition, promotion and meaningful work. Opportunity is created through autonomy, resources, participation, collaboration and supportive work design.

Applied to universities, AMO theory suggests that lecturers will not produce patents, commercializable products or problem-solving papers merely because management announces new expectations. They need ability, motivation and opportunity. Ability may include knowledge of research design, IP protection, industry engagement and prototype development. Motivation may come from promotion recognition, grants, awards, royalties and reputation.

Opportunity may require laboratories, seed funding, technology-transfer support, workload flexibility and access to industry problems.

Resource-Based View

The Resource-Based View argues that organisations gain advantage from resources that are valuable, rare, difficult to imitate and not easily substituted (Barney, 1991). In universities, lecturers represent strategic human capital because their knowledge, expertise, research networks, teaching capacity and creative ability are difficult to replicate. However, human capital becomes institutionally valuable only when it is organised, supported and directed toward meaningful outputs.

Applied to the present topic, RBV suggests that lecturer knowledge is a latent resource until HRM systems help convert it into patents, technologies, models, policy outputs, commercial products and problem-solving scholarship. A university's competitive advantage is not only in the number of professors it employs, but in its ability to organise their expertise into useful intellectual, technological and social outputs. Impact-oriented HRM is therefore a mechanism for converting academic human capital into institutional innovation capacity.

Triple Helix Theory

Triple Helix theory explains innovation as an interaction among university, industry and government (Etzkowitz & Leydesdorff, 2000). The university produces knowledge, industry applies and commercialises knowledge, while government creates policy, funding and regulatory support. In this model, universities are not passive teaching institutions; they are active contributors to innovation ecosystems.

Applied to universities in Nigeria and similar developing economies, Triple Helix theory suggests that lecturer performance should not be evaluated only within the internal boundaries of the university. Academic work should be connected to industry needs, government policy challenges and community development priorities. Patents, commercializable products and problem-solving papers become important because they represent channels through which university knowledge enters the wider innovation system.

Integration of the Theories

Taken together, the three theories provide a strong explanation for impact-oriented HRM in universities. AMO theory explains how HRM practices shape lecturer capability, motivation and opportunity. RBV explains why lecturer expertise should be treated as a strategic resource that must be converted into valuable outputs. Triple Helix theory explains why university outputs should connect with industry, government and society. The integrated theoretical argument is that universities will produce greater impact when HRM systems develop lecturer ability, reward innovation and motivation, create opportunities for application and connect academic knowledge to external users.

Methodology and Analytical Approach

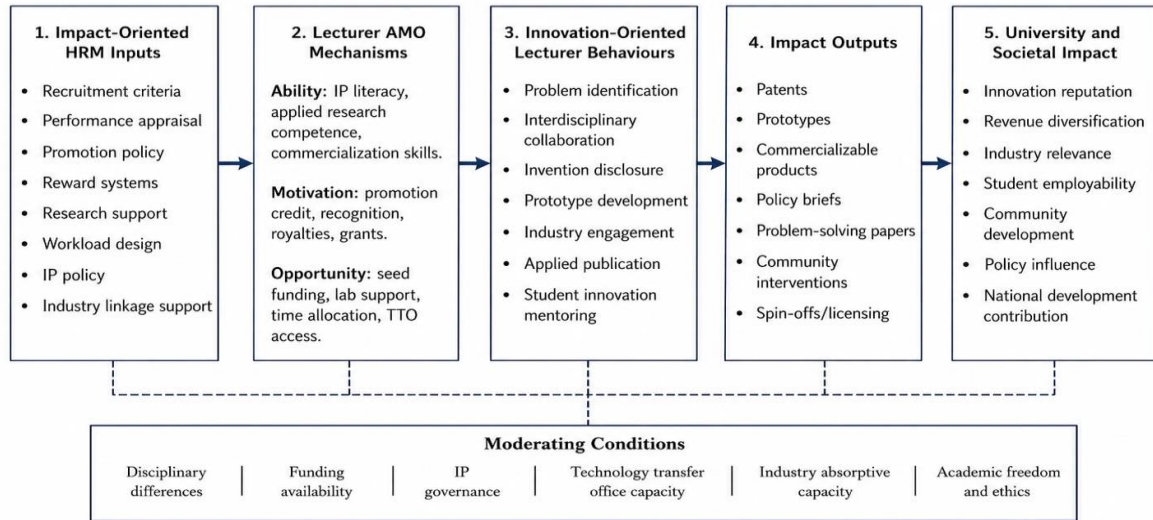
This paper adopts a conceptual and framework-development approach. It does not report primary empirical data, survey findings or statistical analysis. The approach is appropriate because the purpose of the paper is to clarify concepts, synthesise relevant literature and propose a framework that can guide future empirical research and institutional practice. Conceptual papers are valuable when they organise existing knowledge, identify gaps, build new relationships among concepts and propose models for further testing (Jaakkola, 2020).

The paper draws on literature from strategic human resource management, academic performance management, university technology transfer, innovation studies, research commercialisation and responsible research assessment. The analysis proceeds in five stages. First, it clarifies the key concepts of impact-oriented HRM, lecturer performance, patents, commercializable products and problem-solving scholarship. Second, it reviews literature on HRM-performance alignment, research assessment, technology transfer and university entrepreneurship. Third, it applies AMO theory, Resource-Based View and Triple Helix theory to explain the proposed relationships. Fourth, it develops the University Impact-Oriented Lecturer Performance Framework. Finally, it discusses implications, challenges and recommendations for universities, policymakers and academic staff. Because the paper is conceptual, its claims are presented as analytical propositions rather than empirical findings. Future studies can test the framework quantitatively or qualitatively across universities, disciplines and national contexts.

Conceptual Framework: University Impact-Oriented Lecturer Performance Framework

This paper proposes the University Impact-Oriented Lecturer Performance Framework. The framework explains how university HRM practices can be designed to stimulate lecturer innovation behaviour and produce institutional impact through patents, commercializable outputs and problem-solving scholarship.

The framework has five main components: impact-oriented HRM inputs; lecturer ability, motivation and opportunity mechanisms; innovation-oriented academic behaviours; impact outputs; and university and societal impact outcomes. The framework also recognises moderating conditions such as disciplinary differences, funding availability, technology-transfer capacity, academic freedom, IP governance and industry absorptive capacity.

Figure 1. Conceptual Framework for Linking Lecturer Performance to Patents and Problem-Solving Outputs

Source: Author's conceptualization based on Ability-Motivation-Opportunity theory (Appelbaum et al., 2000), Resource-Based View (Barney, 1991), and Triple Helix theory (Etzkowitz & Leydesdorff, 2000).

Figure 1: University Impact-Oriented Lecturer Performance Framework**Table 1: Components of the Proposed Framework**

Framework Component	Explanation	Expected Contribution
Impact-oriented HRM inputs	University HR policies that include appraisal, promotion, rewards, workload, training, IP support and innovation incentives.	Aligns lecturer behaviour with institutional innovation and societal-impact goals.
Lecturer AMO mechanisms	Ability, motivation and opportunity conditions that enable lecturers to produce applied outputs.	Converts HRM policy into actual lecturer performance behaviour.
Innovation-oriented academic behaviours	Activities such as problem identification, collaboration, invention disclosure, prototype development and applied publication.	Moves academic work from routine output toward usable knowledge.
Impact outputs	Patents, commercializable products, problem-solving papers, prototypes, policy briefs, spin-offs and community innovations.	Provides visible evidence of research translation and societal value.
University and societal outcomes	Institutional reputation, industry engagement, revenue, development impact, employability and policy contribution.	Strengthens the university's relevance to society and the economy.
Moderating conditions	Contextual factors such as funding, IP governance, disciplinary differences and technology-transfer capacity.	Prevents one-size-fits-all performance management and supports fair implementation.

Source: Author's conceptualisation based on reviewed literature.

Propositions Derived from the Framework

- P1: Impact-oriented HRM practices are positively associated with lecturer innovation behaviour when they strengthen lecturer ability, motivation and opportunity.

- P2: Lecturer innovation behaviour is positively associated with the production of patents, commercializable outputs and problem-solving scholarship.
- P3: The relationship between lecturer innovation behaviour and university impact is strengthened by effective technology-transfer support, intellectual property governance and industry collaboration.
- P4: Performance systems that combine publication quality, teaching effectiveness and applied impact are more likely to produce balanced academic performance than systems based mainly on publication counts.
- P5: Disciplinary sensitivity moderates the fairness and effectiveness of impact-oriented lecturer performance management.

Discussion

The central argument of this paper is that universities cannot become strong engines of innovation if their HRM systems reward only routine academic performance. Lecturer behaviour is shaped by the criteria through which appointments, promotions, recognition and resources are distributed. If promotion systems emphasise publication numbers and years of service while giving little value to patents, prototypes, commercializable products and problem-solving outputs, lecturers will rationally concentrate on what the system rewards.

This does not mean that publications should lose importance. Publications remain essential to academic credibility, peer review and knowledge development. However, publication should not be treated as the final destination of research. In an impact-oriented university, a research paper may become the beginning of a larger pathway: a policy brief, a patent application, a prototype, a training manual, a community intervention, a spin-off enterprise, a curriculum reform or an industry solution. The HRM system should make these pathways visible and rewardable.

The AMO logic is particularly useful because it prevents simplistic thinking. Some university managers may assume that once patents are added to promotion criteria, lecturers will begin to produce patents. This assumption is weak. Lecturers need ability, motivation and opportunity. A lecturer cannot reasonably be expected to commercialise research without knowledge of IP protection, access to laboratories, prototype support, market validation, legal guidance and industry contacts. Therefore, impact-oriented HRM must include capacity development, not just evaluation.

The RBV perspective further shows that lecturer expertise is one of the most strategic resources of the university. However, expertise can remain underutilised if it is not organized around institutional goals. A university may have professors in agriculture, engineering, entrepreneurship, education and health sciences, yet still contribute little to local industry if there is no structure for identifying problems, funding applied research, protecting inventions and engaging external users. HRM becomes strategic when it converts academic expertise into institutional capability. Triple Helix theory strengthens this argument by showing that university impact depends on external relationships. Patents and commercializable outputs usually require industry users, investors, legal systems, government support and market pathways. Problem-solving papers also require users such as ministries, schools, hospitals, SMEs, community organisations, or development agencies. Therefore, lecturer performance management should not be designed as an internal academic ritual only. It should connect lecturers to the wider innovation ecosystem.

For Nigerian universities, the framework has particular relevance. Many universities are located in environments where communities and industries face practical problems that require research-based solutions. Agriculture needs improved processing, storage and value-chain models. SMEs need business-development frameworks, digital marketing strategies, financial literacy tools and productivity models. Schools need management systems, teacher-development models and early-learning interventions. Public institutions need governance, accountability and service-delivery frameworks. These are opportunities for lecturers to produce problem-solving scholarship with practical value.

However, Nigerian universities must avoid copying foreign commercialisation models mechanically. The Bayh-Dole experience in the United States is often cited as an example of how university patenting and commercialisation can be encouraged, but institutional conditions differ across contexts. Nigerian universities may need to begin with practical

steps: university IP policies, invention disclosure systems, entrepreneurship and innovation offices, applied research grants, industry problem banks, student innovation studios, community pilot projects and clear recognition of applied outputs in promotion criteria.

Another important issue is disciplinary fairness. It would be inappropriate to evaluate a philosophy lecturer, an engineering lecturer, a theatre arts lecturer and an agricultural biotechnology lecturer using identical patent expectations. Instead, universities should create discipline-sensitive impact pathways. Science, engineering and technology may emphasise patents, prototypes and technical designs. Education may emphasise validated instructional models, school improvement frameworks and learning tools. Management sciences may emphasise business models, SME interventions, policy briefs and enterprise-development systems. Arts and humanities may emphasise cultural products, creative outputs, language preservation tools, public scholarship and social impact.

Impact-oriented performance management also requires safeguards against perverse incentives. When universities reward publication numbers without quality checks, predatory publishing may increase. Similarly, if universities reward patents without quality checks, lecturers may pursue weak patents that have no practical value. If commercialisation income becomes too dominant, basic research may suffer. A balanced system should therefore evaluate quality, relevance, adoption potential, ethical compliance and disciplinary context. The purpose is not to commercialise everything, but to ensure that valuable research does not remain unused.

Practical Implications

Implications for University Management

University management should redesign lecturer appraisal systems to include evidence of impact. Promotion forms should not ask only for publications, teaching and service. They should also include sections on patents, prototypes, invention disclosures, commercializable products, policy outputs, industry collaboration, community interventions, student innovation mentoring and research adoption. These indicators should be weighted fairly and adjusted by discipline.

Implications for Human Resource Departments

University HR departments should move from administrative personnel management to strategic academic performance management. HR units should work with research directorates, academic planning units, entrepreneurship centres and legal offices to create promotion criteria that recognise innovation. HR should also maintain performance records that capture applied outputs, not only appointment dates and promotion files.

Implications for Lecturers

Lecturers should begin to think of research as a pathway from knowledge to usefulness. This requires identifying real problems before designing research, engaging stakeholders during research, considering IP implications, documenting applications and translating findings into formats usable by non-academic audiences. Lecturers should also collaborate across disciplines because many commercializable and problem-solving outputs require mixed expertise.

Implications for Research Directorates and Technology-Transfer Offices

Research directorates should create systems for invention disclosure, patent screening, prototype grants, industry matchmaking and commercialisation mentoring. Where full technology-transfer offices are not yet available, universities can begin with modest innovation-support desks that help lecturers assess whether their research has IP, policy or commercial potential.

Implications for Policymakers

Higher education policymakers should encourage universities to include research impact in academic staff evaluation while protecting academic freedom and disciplinary diversity. Agencies responsible for university funding can create grant schemes that reward problem-solving research, prototype development, community testing and industry partnership. However, policy should avoid crude patent quotas and instead support balanced impact indicators.

Implications for Industry and Development Actors

Industry actors should not wait passively for universities to produce ready-made solutions. Firms, SMEs, professional associations, NGOs and government agencies should present problem briefs to universities, co-fund applied research and participate in pilot testing. This will make lecturer research more grounded in actual user needs.

Challenges and Limitations

One major challenge is weak institutional capacity. Many universities do not yet have strong technology-transfer offices, legal support, patent advisory services, prototype laboratories or commercialisation funds. Without these structures, lecturers may struggle to produce the expected outputs. Therefore, implementation must be gradual and supported.

A second challenge is funding. Patents, prototypes and commercializable products often require financial resources beyond ordinary research allowances. Universities in resource-constrained environments may find it difficult to support applied research adequately. This makes external partnerships, grants, alumni support, industry collaboration and government funding important.

A third challenge is evaluation fairness. Academic disciplines differ in their outputs, timelines and impact pathways. A rigid performance model may disadvantage some disciplines or encourage superficial compliance. Universities must therefore design discipline-sensitive criteria and use peer review to interpret impact evidence.

A fourth challenge is the risk of commercialisation pressure undermining academic freedom. Universities must preserve space for basic research, theoretical scholarship, critical inquiry and non-commercial knowledge. Not all valuable knowledge has immediate market value. A mature university system should reward both fundamental scholarship and applied impact.

This paper is also limited by its conceptual nature. It does not present empirical data from Nigerian universities. The proposed framework therefore requires empirical testing through surveys, interviews, case studies, policy analysis and comparative institutional research.

Suggestions

1. Universities should revise lecturer appraisal and promotion criteria to include patents, prototypes, commercializable outputs, problem-solving papers, policy influence, industry collaboration and community impact alongside teaching and conventional publications.
2. Performance indicators should be discipline-sensitive. Patent output should be emphasized where appropriate, but other disciplines should be allowed to demonstrate impact through policy tools, educational models, creative products, social interventions, business frameworks and community adoption.
3. Universities should establish or strengthen technology-transfer support systems. These may include IP offices, innovation desks, patent advisory committees, prototype funds, legal support and commercialization mentoring.
4. Lecturers should receive training in intellectual property, research translation and commercialization. Many academics have strong disciplinary expertise but limited exposure to patenting, licensing, market validation and industry engagement.
5. Promotion systems should reward problem-solving scholarship. Papers should be assessed not only by journal outlet but also by relevance, methodological quality, stakeholder use, policy contribution and practical application.
6. Universities should create industry and community problem banks. These would document real problems from SMEs, schools, hospitals, farms, government agencies and communities, allowing lecturers and students to develop research around actual needs.
7. Reward systems should combine financial and non-financial incentives. Royalties, grants and commercialization income-sharing are important, but recognition, workload support, awards, promotion credit and research visibility are also powerful motivators.

8. Policymakers and funding agencies should support applied research infrastructure. Grants should include funding for prototypes, field testing, IP protection, industry collaboration and dissemination to users.
9. Universities should protect academic freedom and basic research. Impact-oriented HRM should broaden academic evaluation, not narrow it into commercial pressure alone.
10. Future researchers should empirically test the proposed framework across federal, state and private universities, using variables such as HRM practices, lecturer innovation behaviour, patent output, commercialization readiness, industry collaboration and societal impact.

Conclusion

This paper examined human resource management in universities and argued that lecturer performance should be more deliberately linked to patents, commercializable products and problem-solving scholarship. The central argument is that universities will not become stronger engines of innovation merely by calling for research impact. They must redesign the HRM systems that shape lecturer behaviour. Performance appraisal, promotion, rewards, workload, training, research support and IP governance must be aligned with the kinds of outputs universities expect lecturers to produce.

The paper clarified that patents and commercializable products are important, but they should be situated within a broader framework of academic impact. Not all disciplines produce patents, and not all valuable scholarship becomes a commercial product. Therefore, universities should adopt a balanced model that recognizes scholarly excellence, teaching quality, applied research, technology transfer, policy relevance, community engagement and innovation.

The proposed University Impact-Oriented Lecturer Performance Framework contributes to HRM and higher education literature by explaining how impact-oriented HRM inputs influence lecturer ability, motivation and opportunity, which then shape innovation-oriented academic behaviours and lead to patents, commercializable outputs, problem-solving papers and societal impact. For Nigerian and developing-economy universities, the framework provides a practical pathway for moving from publication-centred academic performance toward research that creates visible value for society.

The future of universities will not be determined only by how many papers they produce, but by how effectively they convert knowledge into solutions. Human resource management is the institutional lever through which that conversion can be encouraged, supported, evaluated and sustained.

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