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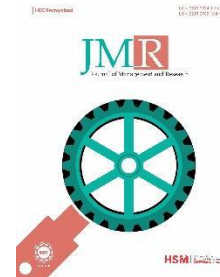
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Factors Enabling the Measurement of Return on Investment (ROI) for Academic Staff Training in South African Public Universities

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Abstract

Institutions spend billions of rands in providing staff with training and development interventions to prepare them to meet the demands of the current dynamic environment. However, executives and other stakeholders demand value from all investments. The increasing pressure from top management to rationalise the costs and benefits of training investments led to the measurement of Return on Investment (ROI). However, measuring the economic value of human capital development is challenging as compared to measuring overall business profitability and performance. This study aims to investigate the factors that enable the measurement of ROI for academic staff training in South African public universities. The study was qualitative and the philosophical approach of interpretivism was adopted. A multi-case study design was used and 14 participants were purposively selected. The cases were comprehensive universities, traditional universities, universities of technology, and government institutions responsible for funding academic staff in South African public universities. Interviews were conducted and the data was analysed through thematic analysis. The findings revealed that the enablers for measuring ROI for academic staff training included accountability, holistic approach to Human Resource Development (HRD), institutional systems, willingness to conduct ROI, and HRD policy that is explicit on ROI. The current study contributes to the body of knowledge and practice by emphasising the enablers of the measurement of ROI and providing recommendations for future studies and practice.

Keywords: academic staff, enablers, ROI measurement, interventions, public universities, Return on Investment (ROI), training and development, training evaluation

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Introduction

Investment in critical and scarce skills development through training is expected to improve human capital (Ashofteh & Orangian, [2021](#); Govender & Adegbite, [2023](#); Jasson & Govender, [2017](#)). Nevertheless, the problem lies with the ambiguity of whether the benefits of these investments are measured and whether training risks are mitigated (Jasson & Govender, [2017](#)). Organisations experience difficulties when measuring the economic value of human capital development relative to determining the overall business profitability and performance (Govender & Adegbite, [2023](#); Randhawa, [2023](#); Shibiti, [2022](#)).

According to Zafar et al. ([2023](#)), organisations use training evaluation practices to establish the return on dollars spent on employee training and development activities. Literature reveals that training evaluation in organisations has become significant within human resource management. This is why it has been studied scientifically by scholars in this field (Olexová, [2018](#)). There has been a change in organisational accountability, especially concerning investment in people, programmes, and projects, recently (ROI Institute, [2019b](#)). A study sponsored by American Society for Training and Development revealed that Chief Executive Officers or CEOs are eager to quantify the business impact resulting from the implemented learning and development interventions (Devarakonda, [2019](#)).

The measurement of Return on Investment (ROI) in Human Resource Development (HRD) has been a topical issue studied by many HRD practitioners, researchers, and organisations over the years (Olexová, [2018](#); Phillips, [2021](#); Wang et al., [2002](#)). This can be traced back to Kirkpatrick's four-level training evaluation model which classifies training evaluation into four levels, namely reaction, learning, application, and business impact (Ashofteh & Orangian, [2021](#); Olexová, [2018](#); Randhawa, [2023](#); Wang et al., [2002](#)). The ROI model was proposed by Jack Phillips and it measures training outcomes at five levels, namely satisfaction with training, learning from training, application of training, impact of training, and ROI, with their respective levels 1-5 (Devarakonda, [2019](#); Fitrianti & Bangun, [2023](#); Jasson & Govender, [2017](#); ROI Institute, [2019b](#)).

Currently, the ROI methodology advocated by the ROI Institute provides a balanced approach to measurement that produces six types of data, namely reaction and planned action, learning, application and

implementation, impact, ROI, and intangibles (ROI Institute, [2019a](#); ROI Institute, [2019b](#)). ROI translates into financial impact, that is, the actual monetary value added by the implemented interventions (Ashofteh & Orangian, [2021](#); Fitrianti & Bangun, [2023](#); Govender & Adegbite, [2023](#); ROI Institute, [2019b](#)).

The need for measuring ROI results from the increasing pressure exerted by shareholders and auditors for a total quality management system to rationalise the costs of training and the benefits of training investments (Olexová, [2018](#)). At one extreme, some organisations do not approve new interventions unless there is a direct business link (ROI Institute, [2019a](#)). Compared to other measures of ROI that are more accounting-related, returns gained from training interventions are mostly results entangled with the impact of other organisational variables (Wang et al., [2002](#)). However, according to Jasson and Govender ([2017](#)), it is possible to attach a monetary value to the benefits emanating from training and an easy calculation could quantify the value. An intervention eventually results in profit, cost savings, or cost avoidance (ROI Institute, [2019a](#)).

Rationale of the Study

This study aims to investigate the factors that enable the measurement of ROI for academic staff training in South African public universities. Notwithstanding the extraordinary value of ROI in business environment, decision-makers were found to astonishingly dodge measuring ROI for the most significant organisational resource (Nakash & Bouhnik, [2022](#)). Measuring ROI still puzzles even the most progressive and advanced professionals across all sectors and functions (Phillips, [2021](#)). According to Govender and Adegbite ([2023](#)), difficulties in measuring human capital development may be ascribed to the lack of knowledge among managers and employees. Furthermore, according to Devarakonda ([2019](#)), executives indicated that the current level of measurement falls far short of generating the desired data. Only 8% said that they were able to see the current business impact, while 96% wanted to see it but could not (Devarakonda, [2019](#)).

Limited literature is available regarding factors that enable the measurement of ROI. A systematic process is required that can identify barriers to and enablers of success and drives sustainable improvements (ROI Institute, [2019b](#)). Hence, the factors that enhance the measurement of ROI for training and development interventions must be investigated. In the

South African public higher education context, billions of rands have been allocated to this sector through the skills levy system by the Department of Higher Education and Training (2021). Still, Shibiti and Mulaudzi (2024) found that there are several barriers to the measurement of ROI for training interventions in the South African higher education context. The governance of higher education in the present era is characterised by revolutionary competition (Amjad & Azhar, 2023). Consequently, there is a need to establish factors that can enable the measurement of ROI to justify the effort taken by the government and public universities.

Research Question

What are the factors that enable the measurement of ROI for academic staff training in South African public universities?

Literature Review

Measuring Return on Investment (ROI)

This study is underpinned by the ROI methodology. Due to its relative simplicity and pragmatism, Kirkpatrick's four-level model of training evaluation, originally introduced in 1959, has been the most utilised and prevalent framework in the scientific community for the evaluation of training (Fitrianti & Bangun, 2023; Olexová, 2018). Phillips added a fifth level of evaluation to Kirkpatrick's model to calculate ROI (Fitrianti & Bangun, 2023; Olexová, 2018). ROI measures training outcomes at five levels, namely satisfaction with training, learning from training, application of training, impact of training, and Return on Investment or ROI, with their respective levels 1-5 (Ashofteh & Orangian, 2021; Devarakonda, 2019; Fitrianti & Bangun, 2023; Govender & Adegbite, 2023; Jasson & Govender, 2017; Olexová, 2018; Phillips et al., 2015; ROI Institute, 2019b).

Reaction evaluates the satisfaction of the participants with the experience immediately after training, learning indicates the enhancement of knowledge, skills, or capabilities due to training, behaviour shows the transfer of learning to the workplace, while results reflect changes in participants' performance and how these changes benefit the organisation (bottom-line results) (Bennington & Laffoley, 2012; Fitrianti & Bangun, 2023; Govender & Adegbite, 2023; Phillips et al., 2015). Quantitatively, ROI is generated by total income divided by total investment, conveyed as a ratio or percentage (Gimba & Anyanwu, 2022; Phillips et al., 2015). To

measure ROI, training intervention costs are used as a factor of benefits (Jasson & Govender, [2017](#); Randhawa, [2023](#)).

The two steps recommended for calculating the benefits include data collection and analysis. Methods such as observation and focus group interviews, as well as training participants and their line managers, are used to conduct data collection. Follow-up surveys and questionnaires are also used during and after the intervention (Jasson & Govender, [2017](#)). For data analysis, estimation, isolation, and adjustment are three recommended steps to isolate the benefits incurred as a result of training intervention (and other influences), causing the altered performance-related behaviour (Jasson & Govender, [2017](#)). Worryingly, according to Govender and Adegbite ([2023](#)), measuring ROI and risks in training in most organisations is non-existent due to negligence.

Academic Staff Development in South African University Environment

According to the Human Resource Development Council of South Africa ([2017](#)), the South African government has initiated various post-apartheid skills development policies and strategies, recognising that skills development is a key strategic priority to realise the development needs of its citizens. It is anticipated that government institutions of higher learning will play an important role in the socioeconomic advancement of the country (Department of Higher Education and Training [DHET], [2017](#)). Local and international factors at the macro-environmental level have caused diverse changes in the higher education context (Bruwer, [2018](#)). According to Pillay ([2019](#)), Higher Education Institutions (HEIs) have numerous critical needs in terms of the professional development of their staff. HEIs need to ensure that they compete, as they are faced with issues related to new managerialism, management, relevancy, globalisation, corporatism, internationalisation, and expansion, as well as satisfying the needs of the government, industries, businesses, and the economy (Pillay, [2019](#)).

The augmented student-to-staff ratio in South Africa has resulted from the significantly increased number of students enrolling in HEIs in the country, together with the meagre increase of academic staff complement over the past two decades (DHET, [2015](#); Musakuro & de Klerk, [2021](#); Webstock & Schoole, [2016](#)). Furthermore, most of the academic staff may not be accustomed to the dynamic curriculum requirements, student profile,

and the current higher education environment (DHET, [2015](#); Webbstock & Fisher, [2016](#)). Moreover, a considerable number of senior academics are aging and will retire in the foreseeable future (Musakuro & de Klerk, [2021](#)). As a result, new academics are being recruited and they require extensive training.

In 2020, the world was impacted by the exponential spread of COVID-19 and universities were forced to migrate to online teaching due to the need for social distancing (Dison et al., [2022](#); Gamede et al., [2022](#)). The pandemic era introduced an over-burst of technological development, resulting in the accelerated implementation of the Information Communication Technology (ICT) in higher education (Ndebele & Mbodila, [2022](#)). Nevertheless, poor enactment of ICT-assisted learning management systems has led to poor exploration of curriculum contents by students (Gamede et al., [2022](#)). Additionally, Artificial Intelligence (AI) tools, such as Chat GPT and Bard (Google's response to Chat GPT), have generated immense speculation, challenges, and opportunities for academic staff (Cotton et al., [2023](#); Fuchs, [2023](#); Rudolph et al., [2023](#)). Thus, it is imperative to provide academic staff with various training and development interventions to ensure that they are well prepared.

Academic staff development is a positive transformation that represents an investment into the future (Council on Higher Education, [2022](#)). It would enable the higher education sector to cope with the inevitable movement of academic staff, enabling it to capitalise on better staff availability and capability. Consequently, it is essential to ensure that academic staff competently addresses the professional demands and challenges emanating from globalisation, the fourth and fifth industrial revolutions, and COVID-19.

The South African government has instituted several skills development programmes for academic staff in public HEIs. The University Capacity Development Programme (UCDP) consisting of the Nurturing Emerging Scholars Programme (NESP), New Generation of Academics Programme (nGAP), Existing Academics Capacity Enhancement Programme, Supplementary Staff Employment Programme (SSEP), and Staffing South Africa's Universities Development Programme (SSAU-DP) was initiated by the DHET to capacitate academic staff in South African public HEIs (DHET, [2015](#)).

At university level, the interventions provided are varied. These include more organised and formal programmes encompassing the completion of degrees, short courses and workshops, and to a lesser extent, structured programmes offered in the workplace (Leibowitz et al., [2015](#)). According to the Education, Training and Development Practices Sector Education and Training Authority ([2018](#)), the higher education sector requires the following critical skills, that is, curriculum and material development, advanced research, mentoring and coaching, assessment and moderation, statistics, postgraduate supervision, facilitation, curriculum development for article publication, project management, monitoring and evaluation, fundraising, and records management.

Methodology

This study is based on the interpretivist philosophy. A research philosophy incorporates assumptions about how the world is viewed and underpins the research strategy and methods (Bianchi, [2021](#); Matta, [2022](#)). It is motivated by a certain viewpoint regarding the relationship between knowledge and the process by which it is generated and applied. The interpretivist philosophy contends that scholars must recognise the differences between human beings in their role as social actors (Alborough & Hansen, [2022](#); Saunders et al., [2015](#)).

In line with the interpretivist philosophy, a qualitative methodology has been adopted. Research methodology comprises the approach implemented to provide a comprehensive and scientific solution to a certain research problem (Mishra & Alok, [2017](#); Patel & Patel, [2019](#)). The current study adopted a qualitative methodology because it aimed to gain an in-depth understanding of the study topic (Mishra & Alok, [2017](#)). A multiple-case study design was chosen because of its practicality when investigating a problem, whereby less information about the problem is available and scholars wish to provide a comprehensive understanding of the topic. Furthermore, it was imperative to establish if there were varied findings among cases (Gustafsson, [2017](#)). The research design encompassed case study research in which diverse, significant, and exclusive cases are chosen for developing comprehensive understanding of a problem (Chmiliar, [2010](#)).

In this study, cross-sectional data was collected. The participants were selected purposively. They included 14 managers representing South

African public universities and government institutions. The participants were distributed as follows: comprehensive universities (3), universities of technology (3), traditional universities (5), and government institutions (3). The participants were requested to give their job titles and years of experience in the field of training and development, specifically in the higher education context. This information was necessary to ensure that they were knowledgeable and had relevant experience regarding the phenomenon under investigation. The selected participants were in managerial positions and had applicable work experience ranging from 04 to 27 years. Semi-structured interviews were conducted to collect the data. The interviews assisted the participants in providing thorough responses to interview questions (Ullah & Rafiq, [2021](#)).

Thematic analysis was conducted on the data collected through interviews. According to Castleberry and Nolen ([2018](#)) and Maguire and Delahunt ([2017](#)), thematic analysis is conducted to identify, analyse, and report themes or patterns within the data. The key objective of thematic analysis is to generate themes prevalent in the data, thus revealing important patterns and using these patterns or themes to answer the research questions and come up with conclusions (Maguire & Delahunt, [2017](#)). The thematic analysis process was conducted via Atlas.ti to code the data and generate the themes.

The findings emanating from the interviews are presented and discussed in the next section.

Data Analysis

Table 1 shows the themes and associated codes that emerged from the data. The themes represent the enablers of the measurement of ROI in the context of South African public universities.

Table 1
Enablers of the Measurement of ROI

Themes	Codes
1. Accountability	Holding people accountable, reporting, and monitoring.
2. Holistic approach to HRD	Entire process and integrated interventions.
3. Institutional systems	Access to data, online platform, and central point.

Themes	Codes
4. Willingness to implement ROI	Looking forward to new measures, eager to measure, and lack of care.
5. HRD policy	Drafting new policies, guidelines, and lack of policies.

This study found that the following five factors enable the measurement of ROI, namely accountability, holistic approach to HRD, institutional systems, willingness to implement ROI, and HRD policy, as discussed below.

Accountability

Based on the data, accountability is the first factor that enables the measurement of ROI. The following were mentioned:

Case 1: “We go out on teaching people in terms of how it works and holding people accountable for their training.”

Case 2: “But we know that the money we use, we use it for the following.” “I have to make sure that my finances are in order.”

“We know we can keep and say we have spent so much money and these are the people that utilise the money. That information you can get.”

Case 3: “We report on our activities on attendance to both funders.”

With accountability, institutions take the necessary actions to ensure that the spending on training and development interventions is properly recorded, monitored, and reported. According to Olexová (2018) and Phillips (2021), organisations require ROI results due to the increasing pressure from company shareholders and auditors for a total quality management system in practice, to rationalise the costs of training and benefits of training investments. Recently, there has been a change in organisational accountability, especially concerning investment in people, programmes, and projects (ROI Institute, 2019b). This is the right step in ensuring that ROI is measured in organisations.

Holistic Approach to HRD

Cases 1 and 2 were found to approach training and development using a holistic approach to HRD. The following was mentioned:

Case 1: “You cannot go for training today and already tomorrow you want to see the return on investment. But we can quantify this return on investment if we can start talking about it from one point to another.”

“... we want to come or to arrive at a point wherein we will teach or develop methodologies of calculating this return on investment, right from the start, when a person is applying for a course or is applying for training.”

Case 2: “So, all the staff learning, and development programmes will be online 24 hours as well as the induction and a lot of interesting information that can be self-taught.”

Training and development should not be seen in isolation, as various factors play a role in ensuring that there is, ultimately, an ROI. From start to finish, institutions should ensure that training and development interventions are supported. This is in line with the ROI methodology proposed by the ROI Institute (2019a). According to the ROI methodology, various steps should be followed to ultimately measure ROI. The following steps are prescribed: 1. align programmes with the business, 2. select the right solution, 3. plan for results, 4. design for input, reaction, and learning, 5. design for application and impact, 6. isolate the effects of the programme, 7. convert data to monetary value, 8. identify intangible measures, 9. capture costs of the programme, and 10. calculate ROI (ROI Institute, 2019a). These steps cover the entire training cycle including training needs, design, development, implementation, and evaluation. According to the ROI Institute (2019b), a balanced approach to success that includes both qualitative and quantitative data, as well as financial and non-financial outcomes, is required.

Institutional Systems

Another factor that enables the measurement of ROI in all cases is institutional systems. The following was mentioned:

Case 1: “I think the only thing that can help is an integrated learning management system because you can build in a lot of metrics into the system.”

“I think one of the things that are crucial for the organisation to improve on its ROI is the fact that we need an integrated learning management system. To do it paper-based is extremely difficult and time-consuming.”

“We, unfortunately, due to capacity constraints at the moment don’t have a system where we do a follow-up.”

Case 2: “We have one central point where all staff training across the university is communicated to staff to avoid confusion and misunderstanding.”

The expectation is that in the future, we will be able to look at all the data at [the institution] and say, okay, that person is an ERP, which is the emerging researcher programme member. They have managed to secure that funding and have participated in this training. But at this stage, the database doesn’t talk to each other.
Case 3

The findings show that institutional systems are critical for the effective measurement of ROI. Institutions should ensure that they automate their systems and that administrators have timely access to the types of training that employees attend in the organisation. For example, according to Moffatt-Bruce et al. (2017), a system-wide implementation of Crew Resource Management (CRM) focusing on ROI was effectively implemented. The system was used to store the costs including training, time away from work, programmatic fixed costs, and leadership time. Cost savings were computed taking into consideration the reduction in avoidable adverse events and cost estimates from the literature.

Willingness to Implement ROI

The fourth factor that enables the measurement of ROI is the willingness to implement it in institutions. The following were mentioned:

Case 1: “I think I’ll be comfortable to say that there are serious inroads that we are making towards this aspect so that at the end of the day, even future scholars will have the base in terms of understanding what this return on investment on staff development is all about.”

“So, we are really looking forward to your study that can assist us in that regard.”

Case 2: “So, at the moment, it is a challenge for us. It is something that we would like to do, but we are not there yet.”

Case 3: “We still have to benchmark how other institutions are measuring the impact. So, your study will be a good one as it will assist us.”

The participants in all cases mentioned that they were still struggling to measure ROI on their training and development interventions due to a lack of processes. However, they were willing to measure ROI and looking forward to finding suitable techniques that can be implemented specifically in their environment. According to Olexová (2018), previous studies found a tremendous interest in ROI. One of the aspects mentioned by the ROI Institute regarding the implementation of the ROI methodology is that there should be an improvement in management commitment and support for the ROI Methodology (ROI Institute, 2019b). However, most managers focus only on pre-and-post scores, even though many processes recommend suitable testing procedures (Devarakonda, 2019).

HRD Policy

The last factor that enables the measurement of RO is an HRD policy explicit on the measurement of ROI. The following were mentioned:

Case 1: “I am busy with the review of the learning and development policy and I have decided that I’m going to incorporate the aspects of return on investment on staff development or training.”

Case 2: “I can't say we have a policy on return on investments. We just don't have a policy for return on investment.”

“Due to a number of policies and policy requirements not in place yet around our performance, leadership and engagement.”

“Around return on investment, we do not have anything, but I could possibly make available just some kind of documents on how we conduct learning and development.”

Case 3: “I don't know if we have any of those documents because this is just a pilot that we are running to see how it will work. We don't have a document per se.”

The participants in all cases mentioned that it would be helpful if they had policies that would guide them in terms of measuring ROI.

Conclusion

This study concluded that the enablers for measuring ROI for training and development interventions provided to academic staff included accountability, a holistic approach to HRD, institutional systems, and willingness to conduct ROI and HRD policy. It was also found that those

who were responsible for managing training and development interventions, in all three cases, were accountable for the allocated budget.

Furthermore, it was concluded that the process of measuring ROI should be conducted throughout various programmes, from start to finish. This is in line with Bennington and Laffoley's (2012) assertion that a step-by-step case for ROI should be built. There is a need to analyse the needs of the organisation, develop its strategic learning plans, and prioritise and present them with solid motivation based on anticipated ROI for top management to support them (Bennington & Laffoley, 2012).

According to Phillips (2012), evaluation should be an integral part of the design, development, delivery, and implementation of programmes. Furthermore, since academic staff attends various training and development interventions simultaneously, there must be cohesion between them in order to achieve an integrated ROI. This would assist in alleviating the challenge of fragmenting training and development interventions identified earlier. The findings are in line with Bennington and Laffoley's (2012) viewpoint that ROI evaluation and feedback should be collected from as many sources as feasibly possible, including top management, participants, their supervisors, and peers. The use of technology substantially improves the measurement and evaluation processes, making it possible to collect, process, and analyse large amounts of data and simultaneously integrate the information across programmes (Phillips, 2012).

Additionally, there is a need to implement institutional systems to enable the measuring of ROI. Universities in all three cases were willing to measure the ROI of training and development interventions that they provided for academic staff. Without the willingness to measure ROI, it would not be done satisfactorily, if at all.

Lastly, it was found that South African public universities do not have policies addressing the measurement of ROI for training and development interventions provided to academic staff.

Recommendations

The current study does not suggest an alternative to the current ROI measurement systems but recommends factors that should be implemented to ensure the effective measurement of ROI. Organisations should implement the enablers of ROI measurement revealed in this study. Furthermore, HR and talent management professionals should collaborate

with top management to jointly identify ROI measures associated with the key strategic objectives of the organisation. For future research, an instrument should be designed to measure the enablers of ROI measurement. This should be done through a quantitative study to ensure the reliability and validity of the instrument. The proposed instrument would assist professionals in establishing factors that enable ROI measurement in their context.

Limitations

The first limitation of this study is that data was collected virtually. Consequently, it was not possible to observe certain aspects of the participants, such as body postures and gestures, during the interviews. Secondly, only 14 participants were interviewed even though more people were approached, since all others were unavailable due to various reasons. Lastly, the interview questions were semi-structured and the participants answered the questions in terms of their understanding of their lived experiences. Consequently, there is a possibility that some aspects might have been omitted as interviews did not follow strictly guided questioning, compared to closed-ended questions.

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