

Performance measurement and evaluation: Applying return on investment (ROI) to human capital investments

Abstract

Purpose – This study investigates the growing use of financial metrics (ROI) to measure performance and evaluate human capital (HC) investments.

Design/methodology/approach – the research employed an embedded case study approach, examining how one ROI approach was applied to evaluating HC investments, across three sectors (corporate, public health, and international development).

Findings – Three major findings emerged: First, interpretations of ROI can lead to ambiguity during implementation. ROI is interpreted trichotomously – metaphorically, as a desire for value; literally, as a metric; and procedurally, as a method for planning and evaluating HC investments. Second, understanding, measuring, and tracking the domains of people performance (cognitive, affective, and psychomotor) is vital to evaluating the impact of HC investments because this is where the change in behavior occurs. Third, although the logic model measures the change in process following an intervention (input-activity-output-outcome-impact), other approaches measure the change in behavior of people in the intervention (people performance).

Practical implications – These findings provide clarity for practitioners about challenges when applying ROI.

Originality/value – This is the first study to explore how the ROI financial metric is applied in a new domain by first examining its interpretation. It elucidates the use of ROI in practice, as well as the different purposes of key ROI approaches.

Keywords - performance measurement, evaluation, return on investment (ROI), human capital investments, public health

Paper type Research paper

1. Introduction

Now more than ever and especially as we emerge from the global pandemic to deal with the financial and economic crisis that awaits, key stakeholders are asking questions such as: what are we getting for our spending on people, what is the return on this type of investment, and are we getting value for money? With this increased pressure for more efficiency in managing public, private, and not-for-profit money, how are managers to measure performance and evaluate the value for money of spending on its people or human capital? As Sparrow and Cooper (2014, p 3) contend, “Those responsible for people management need to be able to look into their organization – its strategy, mission, business model and performance priorities – and be able to articulate how the management of people can serve to create value for the organization, capture that value, leverage it, whilst also protecting and preserving what is of value.”

Furthermore, there appears to be more demand not just from shareholders in organizations but also from local, national, and transnational government bodies, as well as funders and commissioners from international charities for their funded human capital (HC) investment to be evaluated. These demands seem to surround ascertaining the outcomes and impact of an investment, as well as being able to attribute results to the investment (Armytage, 2011; [author(s)]; Munik *et al.*, 2021). Consequently, there are many models used to evaluate these types of HC investments. One of the most widely deployed evaluation approaches is the Logical Framework Approach (LFA), considered by some to be “an all-pervasive tool” (Armytage, 2011, p 268). It uses the logic model (input-activity-output-outcome-impact), mainly evaluating social change investments (see DFID (2009)). Others include evaluation tools for training, such as Kirkpatrick’s Learning Evaluation Model (Kirkpatrick and Kirkpatrick, 2007). Implementing these kinds of approaches can be challenging. We confirmed some of these challenges, for example accessing accurate and timely data (Barnow and Trutko, 2015), and discovered some underlying issues when applying these approaches.

Relatively few evaluation approaches seem to address an apparently increasing concern of practitioners, namely what are the returns on investments in HC? This growing concern could be attributed to wider transformations in the world economy that has been characterized as the rise of neoliberalism, globalization, and financialization (Bloomberg, 2022; Epstein, 2005)). Financialization, which is “the increasing role of financial motives, financial markets, financial actors and financial institutions in the operation of the domestic and international economies” (Epstein, 2005, p 3) seems particularly relevant. It appears that determining the efficacy or impact of an investment may no longer be sufficient; practitioners appear to be interested in knowing whether the investment provides a satisfactory financial return on investment (ROI) (Barnow and Trutko, 2015). Hence the growing interest in using financial metrics to evaluate HC investments. Such approaches, with the ROI metric embedded, appear to promise the ability to evaluate HC investments to demonstrate value. This is part of a wider trend towards the diffusion of the ROI metric to new areas, as will be shown below, and which raises a cluster of issues such as, can a financial metric really be used in an area different from where it was created and still be appropriate and meaningful? What is involved in learning and applying a process for using the metric in a new area?

We explored this phenomenon, taking the application of an ROI approach to HC investments as a case in point. We employed an exploratory embedded case study approach to examine how one ROI approach was being applied by managers across different sectors in the UK, i.e., corporate, public health and international development. The approach includes a clearly

articulated process for applying the ROI metric. This was a qualitative study with constructivist-interpretivist research philosophies. Summaries of the 10 case units from different sectors will be presented. These are real-life accounts of managers attempting to apply the ROI approach in their organizations. As this is the first study to explore *how* the ROI financial metric is applied in a new area, we first demystify the interpretations of ROI in practice. We also discovered new insights from how the ROI approach was being learnt and applied in practice that gives us important clues about the way we evaluate HC investments. Crucially, our study uncovered an interesting finding: understanding, measuring, and tracking the domains of people performance is vital to evaluating the impact of investments in HC.

The paper is structured as follows. First, the theoretical framework surrounding the history and transition of ROI to the HC is presented, then we review key developments in HC theory, as well as reflections on the important concepts of learning and skills acquisition, and knowledge, practice, and context. Then, the research design is explained followed by a discussion of the main findings and conclusions. We also include implications to practice and theory, as well as the key limitations of the study.

2. Theoretical Framework

2.1 ROI – history and transition to a new area

Originally DuPont developed the ROI metric to calculate the rate of return of physical capital investments (Kaplan, 1984). By combining two accounting measures: sales turnover ratio (sales/total investment) and operating ratio (net earnings/sales), $ROI = \text{Net Earnings} / \text{Total Investment}$ (Kaplan, 1984; Merchant and Van der Stede, 2012). Since the 1950s, ROI use has proliferated and was subsequently used as a management control tool for assessing profit performance of divisional managers (Dearden, 1969; Merchant and Van der Stede, 2012).

In their seminal work, Johnson and Kaplan (1987, p 11) argued that ROI is “the most important and the most enduring management accounting innovation”. Over 30 years later this can still be observed. ROI has permeated managerial discourse in accounting discussions (Hopper and Bui, 2016; Seal, 2010). Although it has been mainly used to calculate the returns on investing in physical capital, more recent applications can be seen in other areas. These include marketing (Rust *et al.*, 2004) information systems (Botchkarev and Andru, 2011; Guedes *et al.*, 2021) and HC (Phillips, 2012).

In endeavoring to make sense of the ROI landscape, Botchkarev and Andru (2011) developed a ROI taxonomy comprising four classifications: traditional, extensions, virtualizations, and imitations. Traditional ROI employs retrospective accounting records for actual costs and financial returns (very similar to the original DuPont ROI), extension ROI (similar formula to traditional ROI but uses estimates of future values, discount rate and a time period), and virtualization ROI includes intangible costs. Imitations have been categorized as, 1) those who use the term ‘ROI’ while not actually making a ROI analysis and, 2), those who do not use the ROI term but actually employ some ROI measurement (Botchkarev and Andru, 2011).

This taxonomy does not include ROI approaches that employ traditional ROI while including intangibles. Nevertheless, although Botchkarev and Andru’s (2011) study was specific for the information systems area, their taxonomy is useful because it highlights some approaches to measuring and using ROI. It also shows different interpretations and uses of the term ROI. What is unclear is whether these different uses are confusing alternatives, or usefully complementary depending on the particular situation a practitioner is in.

As noted above, ROI is being applied to evaluating investments in the area of HC (see Ben-Gal (2019), Hesketh *et al.* (2014), Phillips (2012) and Wang *et al.* (2002)), yet there is very limited research on how the metric is applied in practice (Doherty and Dickmann, 2012; McNulty *et al.*, 2009; Steen and Welch, 2011). Steen and Welch (2011, p 59) wondered about the ROI metric’s applicability to HR and argued that “the potential of financial metrics such as return on investment” have not been fully investigated. Existing studies have examined the ROI of international assignments (see Doherty and Dickmann (2012), McNulty *et al.* (2009), and Steen and Welch (2011)). None of these had an ROI approach, i.e., a formal process with the ROI metric embedded to carry out evaluations. Therefore, it is likely that there would have been different steps undertaken to assess the ROI of an international assignment across the participating firms. Consequently, there is a lack of clarity in the application of the process and the formula the participants used to measure the ROI of their international assignments. Therefore, although challenges were noted, it is difficult to assess at what point the application of the process of implementing ROI becomes problematic.

Three ROI approaches that specify a process for evaluating HC investments have been identified. These are the Phillips' ROI Methodology™ (Phillips, 2012), the Social Return on Investment (SROI) approach (Nicholls *et al.*, 2012) and the abdi ROI recommended approach (Massy and Harrison, 2014). SROI can be closely compared to the LFA because of its use of the logic model and the other two approaches use Kirkpatrick's Learning Evaluation Model as their foundation. However, abdi's ROI approach (an off shoot of Phillips') conflates both the LFA and Kirkpatrick's approaches.

Proponents of ROI approaches suggest that these approaches are clear, logical and simple to apply (Nicholls *et al.*, 2012; Phillips *et al.*, 2015). However, research has shown that this is not necessarily the case in practice (Millar and Hall, 2013; Wilson and Bull, 2013). In addition, there appears to be different practices when applying a prescribed ROI evaluation approach, including applying some or part of the procedures of the approach (Millar and Hall, 2013; Wilson and Bull, 2013). Research also indicates that there may be different perceptions or interpretations of ROI (Botchkarev and Andru, 2011; Jasson and Govender, 2017; Millar and Hall, 2013). Therefore, it is important to assess how ROI is being interpreted in practice.

Research question 1: *How is return on investment (ROI) interpreted?*

2.2 Human Capital Theory

Since the mid-1900s, scholars have debated the concept of *human capital* and how to treat the contribution of people as capital. See seminal papers from Becker (1962); Goode (1959); and Kiker (1966). Human capital (HC) can be defined as the knowledge, skills (physical and intellectual), attitudes and other acquired traits that an individual possesses, that can be used in production (Goode, 1959; Ployhart *et al.*, 2011; Provo 2000). Discussions began with proponents advocating for HC to be considered as part of capital formation (Goode, 1959) and further evolved to classifying the ways of investing in HC, such as schooling, on-the-job training, and medical care (Becker, 1962). Since then, several studies have been conducted, see reviews by Osiobe (2019) from the economic growth perspective and Fleming (2017) who explores the dark side of HC theory.

Investing in HC would necessitate developing and implementing interventions that influence a change in the individual through education, training, or health care, which then provides returns to the person, organisation and/or country (Dash and Roy, 2021; Bae and Patterson, 2014; Nafukho *et al.*, 2004). The literature covers the measurement of HC investments at the national/country level, where the emphasis is generally on the returns the country receives for its investments in its citizens, such as in education. For examples, see Giziene *et al* (2012); Neagu *et al* (2019); Octavian and Nicoleta (2010) and Schultz (1993). Scholars have shown that investments in a nation's human capital yield positive returns. Literature covering HC investments within organisations revealed ongoing research in three key areas:

- 1) measuring the link between human resource practices and the organisation's performance alongside studies on HC analytics (see Nicolaescu *et al.* 2020; Qamar and Samad, 2022; Anderson, 2017; Becker *et al.*, 2001; Bowen and Ostroff, 2004; Crook *et al.*, 2011; Guest, 2011; Gurusinghe *et al.* 2001)
- 2) measuring the value of human capital within organisations (Fitz-Enz, 2009; Hesketh *et al*, 2014; Mayo, 2008) and
- 3) human resource accounting (Toulson and Dewe, 2004; Steen and Welch, 2011).

Becker's (1962) seminal paper delineated between general and specific HC investments particularly for on-the-job training, arguing that general training is useful across many organisations and that organisations would provide it when they do not pay the costs. On the other hand, specific training increases productivity in the organisation providing it (Becker, 1962). However, Campbell et al (2012) later showed that firm-specific HC can be valuable to other organisations. Krakel (2016) and Chatterjee (2016) support this theory and found that general HC can benefit organisations providing the training, while Sayili (2020) found general HC can be used to retain skilled employees. Morris, et al (2016) argue that the two types of HC investments can be linked and that they can impact the kinds of HR practices organisations potentially adopt as well as the effectiveness of these practices. Riley et al (2016) also showed that both investments can potentially yield sustainable competitive advantage. Interestingly, Bentley, et al (2021) provide evidence that investments in HC can offer employees some increased job security as organisations that have invested in their HC are less likely to make workforce reductions when responding to financial pressures in a crisis.

The above studies calculate returns for HC investments at the aggregate level of the country or organisations but further work is required at the more micro level (Morris *et al.*, 2016). Also, while they are useful for assessing the overall performance of the organisation, they do not help in ascertaining whether particular investment were effective, improved efficiency and/or produced positive impacts on and/or returns for the organisation (Sakalas and Liepē, 2011). Measuring the impact and effectiveness of the HC investments, such as training, is still an underexplored area with very little in the way of specific guidelines and methods on how to proceed while making the assessment (Jasson and Govender, 2017; Kucharčíková *et al.*, 2018). Practitioners require a more granular analysis at the level of the HC investment. However, while most studies show operational benefits it is very difficult to calculate actual returns on investment (Riley *et al.*, 2016). Hence the interest in using ROI evaluation approaches for these purposes. Whether such evaluation approaches, with the ROI metric embedded in their processes, are actually useful for HC investment remains unclear. Therefore, it is important to understand how ROI evaluation approaches are being used to measure investments in HC.

Research question 2: *How are human capital investments evaluated using an ROI evaluation approach?*

2.3 Learning and Skills Acquisition

What it means to learn and apply an ROI approach may start with an individual absorbing the principles and procedures of the approach and continuing with that person undertaking some or all elements of the approach and introducing it into practice. Essentially, practitioners are acquiring a new management approach to add to their repertoire, while blending it in with their existing knowledge and skills. This is a subtle and complex process for which success is not guaranteed.

Learning has been described as an interplay between social competence and personal experience; a dynamic, two-way relationship between people and the social learning systems in which they participate (Wenger, 2000). Learning involves the acquisition of knowledge as well as the ability to act in socially recognized ways (Brown and Duguid, 2001). Whether the

aim is to adopt new action strategies or change governing values (Argyris and Schön, 1974), it is generally accepted that learning is acquired through progressive stages. Two well established models of learning acquisition are Bloom's Taxonomy and Dreyfus' Five-Stage Skills Acquisition Models (Bloom et al., 1956; Dreyfus and Dreyfus, 1980). These models classify learning and skills acquisition in progressive stages, arguing that understanding these stages is essential for setting objectives when designing training investments.

Bloom et al. (1956) classified learning objectives into one of three major domains – cognitive, affective and psychomotor. In adult education, these three domains are often referred to in terms of knowledge (cognitive), skills (psychomotor) and attitude (affective) (Bloom *et al.*, 1956; Shields, 2001). The cognitive domain objectives are those that cover recalling or recognizing knowledge and developing intellectual abilities and skills (Shields, 2001). The revised objectives for this domain are remembering, understanding, applying, analyzing, evaluating and creating (Anderson et al., 2001). These are hierarchical, where each level builds on the previous level. The affective domain focuses on changes in interest, attitudes, and values, the development of appreciations and adequate adjustment (Bloom *et al.*, 1956; Shields, 2001). These are the emotions of the learner, classified into five hierarchical areas – receiving, responding, valuing, organization, and internalizing values (Krathwohl *et al.*, 1964). The psychomotor domain addresses the skills of the learner. The Dreyfus brothers argued that “skill in its minimal form is produced by following abstract formal rules, but that only experience with concrete cases can account for higher levels of performance” (Dreyfus and Dreyfus, 1980, p. 5). Their revised hierarchical Five-Stage Model of Adult Skill Acquisition includes novice, advanced beginner, competence, proficiency, and expertise (Dreyfus and Dreyfus, 2004).

2.4 The Knowledge-Practice-Context Relationship

Cook and Wagenaar (2012) chronicle the emerging views of the knowledge-practice-context relationship in their piece, *Navigating the Eternally Unfolding Present: Toward an Epistemology of Practice*. Their discussion begins with the widely accepted view of knowledge being applied in practice (where knowledge is seen as superior to practice – “we master the world by acquiring knowledge of it and applying that knowledge within the constraints of given contexts” (Cook and Wagenaar, 2012, p. 7) and ending with a depiction of their own views of the relationship (shown in Figure 1). In their depiction, practice is seen as primary and is defined as “any kind of activity the meaning of which (including the purpose) is derived from a given context” (Cook and Wagenaar, 2012, p. 4), while knowledge and context are seen as aspects or artefacts of practice. However, their depiction fails to demonstrate a relationship between knowledge and context, which are both inseparable from each other (Cook and Wagenaar, 2012). As noted by Greenhalgh and Wieringa (2011) many philosophers have emphasized the importance of how tacit knowledge is built from experience, shared across communities and linked to action in context.

[INSERT FIGURE 1 HERE]

Greenhalgh and Wieringa's (2011, p. 503) useful summary of the entwined relationship between practice, knowledge and context covered various disciplines. Of note are Polanyi's “[k]nowledge is embodied, inseparable from the knower and contiguous with practice”; Weick, Brown and Duguid's “[k]nowledge is the ability to exercise judgement within a

particular field of practice.”; Lave and Wenger’s “[k]nowledge is contiguous with practice”; Nonaka’s “[k]nowledge in an organization takes many forms, one of which is embodied in practice”; Van de Ven’s “[k]nowledge emerges from collaborative practice; and Gabbay and le May’s “[k]nowledge, practice and context are inseparable”.

Therefore, based on the foregoing, the relationship between practice, knowledge, and context, as used in this study, is depicted in Figure 2.

[INSERT FIGURE 2 HERE]

Here, practice and knowledge appear at the same level, therefore neither is seen to be superior to the other. Context appears below to demonstrate that both practice and knowledge are dependent on the context they are in. The circular arrows depict the interdependence of this practice-knowledge-context relationship. Ichijo and Nonaka (2007) pointed out that practice lays a foundation to share knowledge (tacit) through shared experience and is also an effective way to embody knowledge (explicit) by reconnecting it to a particular context to further conduct it into knowledge (tacit). Their point can be seen in the circular arrows of Figure 2. Nonaka’s widely cited Socialization Externalization Combination Internalization (SECI) Model describes how the four modes of knowledge conversion spiral through a cycle converting tacit knowledge to explicit knowledge and vice versa (Nonaka, 1991; Nonaka *et al.*, 1995; Takeuchi and Nonaka, 2004).

These concepts and their relationship can help interpret the experiences reported by practitioners from different sectors/contexts (corporate, public health and international development); who embarked on a training course to increase their knowledge, wanting to apply that new knowledge in practice in their respective contexts.

In summary, although the ROI metric has been used in areas other than physical capital for many decades, there has been very little research into how it is actually applied to other types of capital. Since the ROI metric was developed to ascertain the rate of return of investments in physical capital, applications to alternate areas may not be as straightforward. Measuring the effectiveness or impact of HC investments necessitates evaluating the people receiving the investment. Therefore, how financial metrics are being applied to evaluating investments in HC is a potentially important yet controversial area, one that has lagged in academic research. Our study addresses this knowledge gap by exploring this phenomenon. Our research questions are:

1. *how is the return on investment (ROI) metric interpreted?*
2. *how are human capital investments evaluated using an ROI evaluation approach?*

3. Research Design

Addressing our research questions entailed identifying and having access to an evaluation approach that includes a clearly articulated process for applying the ROI metric. Moreover, the ROI approach would need to include not just the ROI financial metric but also a range of the elements of an evaluation approach. Typically, these include formative and summative evaluation phases, assessment of the impact of an **investment**, and the use of baseline data. The abdi approach met these requirements, as well as being the only ROI approach that evaluated HC investments in different scenarios, i.e., in organizations as well as in communities. Furthermore, and crucially, the researchers required access to data for both the approach and participants, which was made available through abdi Ltd.

3.1 *The abdi ROI recommended approach*

The abdi ROI recommended approach is an adaptation of Kirkpatrick's Learning Evaluation Model (Kirkpatrick and Kirkpatrick, 2007) and Phillips' ROI Methodology™ (Phillips, 2012), while incorporating aspects of the LFA. See [author(s)] for a complete critical analysis of these approaches. It offers a systems lens (Moore *et al.*, 2019) and has been implemented on a variety of HC **investments** in many countries, across different sectors. These approaches categorize outcomes based on levels with Kirkpatrick having four, Phillips five, and abdi six. Descriptions for each level differ across approaches, though they are somewhat similar. To follow are abdi's six levels (abdi Ltd, 2013):

Level 1 (L1) – Engagement: measurement of the engagement of the learners and captures their planned actions at this level.

Level 2 (L2) – Learning and Confidence: measurement of the learners' skills, knowledge, and attitudes, as well as confidence to apply the approach.

Level 3 (L3) – Application and Implementation: on the job measurement of the learners' changes in performance, behavior, practice and processes.

Level 4 (L4) – Impact Outcomes: measurement of changes in the targeted impact outcomes.

Level 5 (L5) – ROI: compares the benefits of the **investment** to its costs, as a percentage. $ROI = ((\text{Realized Monetary Benefits} - \text{Actual Costs}) / \text{Actual Costs}) \times 100$.

Level 6 (L6) – Non-monetized impact outcomes: (or intangibles) the measurement of outcomes that have not been converted to monetary values.

Practitioners are advised that not all projects need to be evaluated to L5 and L6. Once relevant data has been collected, ROI is calculated using realized monetary benefits and actual fully loaded costs. A key feature of abdi's approach is being able to attribute the results to the HC **investment** by isolating the impact of the investment between L3 and L4, using

one or more isolation techniques – control groups, regression analysis, trend line analysis, forecasting and estimation. The process systematically tracks what happens to participants during a project (**the HC investment**) and identifies the factor(s) that changed behavior (abdi Ltd, 2013).

3.2 Methodology

The research questions seek to explore *‘how is the return on investment (ROI) metric interpreted’* and *‘how are human capital investments evaluated using an ROI evaluation approach’* and necessitates a constructionist and interpretivist philosophical perspective. Constructionism argues, “that perception and cognition are active processes, in which anything apparently ‘given’ is actually a product of processes of selection and construction” (Hammersley, 2013, p 35). These processes, which are socio-cultural in character, must be the focus of the study (Hammersley, 2013; Rubin and Rubin, 2005). Interpretivism stresses cultural differences and “requires the researcher to adopt an exploratory orientation, and in particular to learn to understand the distinctive perspectives of the people involved, and perhaps also to observe how their patterns of action unfold in particular contexts” (Hammersley, 2013, p 29). As noted by Gephart Jr (2004) organizational research tends to neglect the depiction and understanding of the meanings of the organization’s members. Constructionists and interpretivists are interested in how people view a phenomenon and the meaning they attribute to it; looking for the specific and detailed and trying to build an understanding based on those specifics (Rubin and Rubin, 2005).

The requirement is for depth of data rather than breadth, i.e., getting beyond responses that are formulaic or the official position for the organization. As a result, qualitative research was more appropriate to capture these kinds of responses. Access to participants with real-life accounts of attempting to apply the approach and metric was achieved through abdi Ltd. Case study research fitted well as the specific research strategy; it falls within the constructivist and interpretivist research paradigm and can be employed with qualitative research (Baxter and Jack, 2008). It is also a comprehensive research approach that allows for the inclusion of contextual conditions (Yin, 2003). In a case study a single unit or bounded system is intensively and holistically described and analyzed (Merriam, 1998).

Our research utilizes an exploratory embedded case study approach. This is well suited to this field of interest as it treats the diffusion of the ROI metric to HC investments as a single case study. This means that within the framework of the single case it is possible to explore a variety of individual practitioner experiences, all of whom are attempting to learn and apply the metric. Therefore, the wider case comprises a number of units capable of drawing on a wide array of experiences within different organizational structures. This is a powerful way of analyzing within cases as well as across cases but situated within a larger case (Baxter and Jack, 2008; Yin, 2003). “The ability to engage in such rich analysis only serves to better illuminate the case” (Baxter and Jack, 2008, p 550). This type of case study is different from multiple-case studies, which are used to predict either similar results (i.e. a literal replication) or contrasting results but for predictable reasons (i.e. a theoretical replication) (Yin, 2003).

This anonymised study was carried out in the UK and explored how abdi’s ROI approach was learnt and applied within three contexts: corporate (1 manufacturing company [CG] and 1 engineering [CI]), health service (3 NHS Trusts [HN]) and international development (1 UK international charity [IB]). Authorisations for spending on HC investments specific to this study rested with each organisation’s senior leadership. Ten case units (2 CG, 1 CI, 4

HN, 3 IB) involving 53 participants were developed. These are comprehensive depictions of the complex environments in which the ROI approach was applied. Figure 3 depicts the embedded case study (the ROI approach applied to HC investments), comprising the ten case units as well as the relevant practitioner-actors.

[INSERT FIGURE 3 HERE]

The case units are the records of participants' experiences of preparing or actually attempting to apply the ROI metric via the ROI approach. **Data was collected by:**

- Direct observations of workshop participants (4 with 8 to 11 participants: 1 CG, 2 HN, 1 IB). This study began with direct observation where the research team sat outside of the group and observed abdi Foundation workshops, without actively participating in the workshops.
- Semi-structured interviews (31 interviews: 7 CG, 2 CI, 11 HN, 8 IB plus 3 abdi who provided background information on the approach). Using an interview guideline covering the key themes, interviewees were encouraged to speak in their own terms about the relevant topic. These were done via one-to-one and two-to-one face-to-face interviews, as well as participation in a project meeting.
- Document analysis (workbooks, participant assignments, etc. [37 Documents: 6 CG, 21 HN, 10 IB]). At each workshop, attendees were asked to carry out assessments based on an HC investment that was being undertaken in their organization. These were then submitted to an assessor for evaluation. Copies of the participants' evaluated assessments were collected and analyzed to examine how they applied the ROI approach.

In addition, each participant reviewed the written case units for accuracy of information and interpretation. Their sign-off enhanced the credibility of the data (Patton, 2002). Using multiple sources of evidence allows for the development of converging lines of inquiry (Yin, 2003). It is also important because it enables triangulation of the data (Silverman, 2006; Yin, 2003). See Table 1 for a summary of the case units.

Purposeful sampling was used to select participants for this study because it allows the selection of cases that illustrate features or processes that are of interest (Silverman, 2006). In this strategy, the focus is understanding what is happening in each case so that logical generalizations can be made (Patton, 2002). There were a number of options for selecting participants, namely:

1. Select attendees at the Foundation workshops and follow through with those that apply the ROI approach, after they had achieved their award.
2. Select key informants who were mid-way through applying the approach and follow through to completion.
3. Select key informants who had already applied the approach and conduct retrospective data collection.
4. A combination of 1 to 3.

The first option was the preferred choice; however, the fourth was eventually used. Only three participants were selected from the Foundation workshops because the others either did not complete the assessment in the time specified or never submitted an assessment.

Collection tools, including recording sheets, checklists, field notes, and digital recorders, were used, and analysis was carried out using QSR NVivo v10. Participants shared their stories through a variety of ways – telephone and face-to-face interviews, and emails. Several analytical techniques were employed to interrogate the data robustly and rigorously, including thematic analysis, constant comparative analysis, and cross-case synthesis: thematic analysis – to identify, analyse and report patterns within the data (Braun and Clarke, 2006); constant comparative analysis – comparing one piece of data (one interview, one statement, one theme) with others to develop conceptualizations of possible relations between them (Silverman, 2006); and cross-case synthesis – aggregation of the findings across individual cases (Yin, 2003). These analytical techniques were used concomitantly while developing the case units under three main themes:

1. Interpretations of ROI – coding included ‘ROI as a concept’, ‘ROI as metric’, and ‘ROI as a methodology’.
2. Applications of the ROI approach – coding included ‘ROI – what is being measured (time or money)’ and ‘ROI links business needs to investment’.
3. Challenges in applying the ROI approach – coding ‘data collection’ and ‘data sources’.

Within these themes quotations from participants were compared within and across the three contexts. For example, we found the challenges faced (e.g., access to data, quality of data, and the timeliness of data) were similar across the three contexts.

[INSERT TABLE 1 HERE]

4. Findings and Discussions

4.1 Interpreting ROI

The interpretations of ROI were similar across all the units, possibly arising during the process practitioners went through as they learnt and applied the approach. There was a clear trichotomy for interpreting ROI: metaphor, metric, and method (see examples in Figures 4 to 6).

[INSERT FIGURE 4 HERE]

[INSERT FIGURE 5 HERE]

[INSERT FIGURE 6 HERE]

But how much these interpretations were as a result of their own theories of action, whether theories-in-use or espoused theories (Argyris and Schön, 1974), or the ROI training is unclear. For example, see quote by a facilitator here:

“ROI answers the question – was it worth doing and doing it in that way? Was it worth spending the money we spent to achieve those results? Even if we get great outcomes, was it worth doing, did we get value for money?” [Facilitator, workshop day 1]

In this quote, all three interpretations can be seen:

1. “ROI answers the question...” – as a *method/approach*
2. “...if we get great outcomes...” – as a *metric*, specifically a positive ROI in this case
3. “...was it worth doing, did we get value for money?” – as a *metaphor*

In addition, the workbooks that participants use in the workshops express ROI using all three interpretations (abdi Ltd, 2013, p 19):

1. “It is an indicator of the value for money of investments in learning and development, HR...” – as a *metaphor*
2. “ROI applied to human capital investments is: The net benefit from the investment ÷ the fully-loaded cost of the investment” – as a *metric*
3. “The value of using the abdi ROI recommended approach to track human capital investments...” This latter statement continues by listing reported benefits of using the approach, such as assisting in “planning, monitoring and reporting on complex social and economic projects and programmes”, as well as enabling “project commissioners and managers to communicate the outcomes and value more effectively to financial and operations managers, line managers, participants and beneficiaries” – as a *method/approach*

Indeed, it could very well be that these interpretations are part of the process for learning to apply ROI. That is, during the training, the term ‘ROI’ is used in these three ways and so participants who have gone through the training subsequently adopt these usages.

It would appear that there was a cumulative process occurring during the learning and implementation of the approach. As practitioners went through this process, they developed different interpretations of the approach and it seems they became increasingly committed to applying it on the job because of the benefits these interpretations suggest they could achieve. Therefore, ROI was found to have multiple interpretations and uses, as seen in other studies (Botchkarev and Andru, 2011; Millar and Hall, 2013). However, more specifically, a trichotomous interpretation was observed in this study:

1. ROI is an expressed aspiration and commitment to value, for many practitioners it is rhetoric for getting returns from an investment or getting value for money. This is the more general interpretation used, which could also be one reason practitioners employ different applications of the metric in practice, e.g. ROI of marketing (Rust *et al.*, 2004), social media marketing (Fisher, 2009) and information systems (Botchkarev and Andru, 2011).
2. ROI as a metric is a financial formula (classic/traditional or other derivations) that involves the calculation of an **investment’s** returns/benefits and its costs/inputs, either retrospectively, predictively, or both. It is a metric for calculating whether investments of money or time had provided any returns to the investor. This is the term generally used by the accounting profession and at boardroom level. In the ROI approach, an accounting formula is used that places emphasis on realized monetary benefits and actual fully loaded costs.
3. ROI is a concept used to discuss a method, framework, or approach. This interpretation emphasizes linking **the investment with** the performance of the organization or community. Therefore, ‘applying ROI to HC investments’ is conceptualized as ‘implementing a process or framework’, one that could, in principle, demonstrate that investing in a particular HC **investment** has provided value for money to the organization making the investment or positively impacted the community the investment is being made for. It is about developing a discipline for collecting data on the costs and benefits of that investment, which is necessary for consistency and credibility, to be used in demonstrating the value for money by inputting these data in the ROI formula. The metric forms part of a ROI approach, i.e., part of the process for evaluating an investment in HC. Hence, the last interpretation encompasses the first two interpretations (as depicted in Figure 7).

[INSERT FIGURE 7 HERE]

Interestingly, and counterintuitively, although the practitioners in this study selected the ROI method as a means to evaluate investments in HC, hardly any of them actually calculated the return on their investments (i.e., used the ROI metric) in their evaluations. For some practitioners, it appears this was not their priority. Implementing the ROI approach was not really about applying the ROI metric to HC investments but about applying a set of procedures to plan and evaluate an **investment**. In fact, the recommendation from proponents of the approach is that evaluations should be measured at this level “where you can and when it is required” (Abdi Ltd, 2013, p 72). Even in Phillips’ methodology this was the case; he explained that the target at this level is relatively small – a common target being 5% of all HC **investments**, “reflecting the challenge of comprehending any new process” (Phillips,

2003, p 26). This **raises** the question, why are these evaluation approaches presented in terms of ROI when ROI calculations are not actually encouraged?

4.2 Implications of ROI as metaphor, metric, and method

These types of investments in HC can be hard to justify. Consequently, the use of 'ROI' can give the impression that these investments are being measured in a way that can be communicated to key stakeholders. It seems then that ROI is being used to *bridge* a communication gap between certain stakeholders, especially between senior, financially oriented executives with **Learning & Development (L&D) and Monitoring & Evaluation (M&E)** managers. As a bridging metric, it facilitates discussions regarding the returns to the organization or community of investments made in HC. However, with the trichotomous interpretation of ROI, discussions could be ambiguous. For example, the financial director may believe that the L&D manager has been able to quantify in financial terms the returns of a training program. However, the L&D manager may have only used an ROI approach up to an achievable level (say, L1 – evaluation sheets at the end of the program to determine engagement). They are communicating but not about the same thing.

Nevertheless, the practitioners in this study, who had been trained in the ROI approach, used the term predominantly to refer to the method, which covered planning and implementing their HC **investments** not just evaluating them. And, as noted earlier, even though the ROI approach is a step-by-step process that culminates in calculating a monetary value (the ROI metric) this final stage was not seen as a priority by the participants in this study. Instead, the priority was being able to learn and apply a structured method for planning, implementing, and evaluating these types of **investments**. There was only one example of the ROI metric itself being used to evaluate HC investments, i.e., in only one out of the ten units (*Company CG Alan & Chloe*) was the approach fully applied.

Another reason the ROI approach may be presented in terms of ROI when ROI calculations are not actually encouraged could be that the term ROI in the title is a good marketing tool. It grabs the attention of the target audience, i.e., those who need to be convinced or want to convince others about the value for money or returns from their HC investments.

Consequently, with its trichotomous usage, i.e., not just as a metric but also as a metaphor and a method, ROI can still be usefully deployed in evaluating investments in HC. That is, some participants in the study valued the benefits they gained from it enough to sustain their use of it long after first learning about it. Crucially, these benefits depended heavily on which usage or usages of 'ROI' they were adopting. It was also contingent on the ways in which participants aligned use of some or all of the ROI approach with their own needs and purposes, given the readiness for more financially focused thinking in the organization where they worked. Therefore, although actual applications of the metric were rare, ROI was still widely used as a metaphor, to express a general commitment towards ensuring value for money for investments in HC **investments**.

Against this background, the method can be seen as providing participants with an *aspirational map*. As such, it provided an overview of where they were and where they were aiming for; one that offered some practical guidance that could be immediately used as well as guidance orientated towards a long-term aspiration. Even those who had only actually applied the early steps in the approach appreciated the perspective and rationale that the method provided. This suggests the method provided the most important usage of ROI, over the metric and even the metaphor for these practitioners. Also, in addition to being an

aspirational map for practitioners, it provides the organization with a blueprint for evaluating investments in HC. The systematic processes, principles and tools offers guidance on the changes to be made to policies, procedures, and management information systems (MIS) to facilitate evaluating HC investments. It appears these changes can be implemented incrementally over a long period of time in any setting.

4.3 Evaluating HC Investments by Measuring People Performance

Participants experienced difficulties understanding the ROI approach itself, as well as implementing it. Theories of action from various disciplines (accounting, finance, evaluation, HR, etc.) were coming together in the ROI approach, which undoubtedly contributed to its complexity. In addition, the difficulties participants experienced in internalizing (Ichijo and Nonaka, 2007) the approach reflected the changes in their governing values (double-loop learning). They had expected to learn a simple process (single-loop learning) but instead were required to change their Model I theories-in-use about planning, monitoring and evaluating investments (double-loop) (Argyris and Schön, 1974). In particular, being able to make the link between the levels was found to be difficult.

In theory, to apply the approach, first, the organization's performance that is being targeted needs to be identified (L4), then the behaviors that impact this performance that require changing needs to be ascertained (L3), followed by determining any new knowledge needed to facilitate the behavioral change (L2) and then selecting and engaging the right stakeholders to be involved (L1). SMART objectives for each level are then set. Data on the participants' performance, costs, and benefits (both monetary and non-monetary) are then collected within each level during the implementation of the HC **investment** (L1 to L6), where L5 includes the calculation of ROI. In the ROI approach, this is called demonstrating the 'chain of impact'. All evaluations involving an impact on the organization (i.e. L4 and beyond) have to include an isolation technique (control group, regression analysis, etc.) so that the impact of the **investment** can be credibly separated from other influencing factors (Massy and Harrison, 2014).

However, **this study revealed** that the chain of impact did not occur level by level. The outcomes of engagement (L1), learning and confidence (L2) and application and implementation (L3) occur iteratively and appear to interrelate. L1 and L2 are usually collected at the same time via end of event questionnaires, see Table 2 for a summary of the analysis.

[INSERT TABLE 2 HERE]

There was confusion for some practitioners about what actually applied in practice for L2. For Alan, L2 focused on knowledge,

“our test is only focused on knowledge; we don't actually have anything on our level 2 that is specifically focused on skills or behavior or attitude.” [Alan, CG interview]

While Anne, HN monitored attitude throughout the implementation of her project.

“So, every ten weeks somebody sits down with them and looks at their attendance, so we know what the level of sickness absence is, and we report it on that. We know what their sort of, if there are any on-going problems that have been documented, so

if there's problems with attitude, and the motivation to actually get on with it." [Anne, interview 2]

At L3, according to the guidelines, the focus should be on whether or not the participants apply the new knowledge to the standards set. However, unless there is a baseline for the behaviors that require changing, how could the **investment** be credibly accepted as the cause of the change in behavior? Even if the isolation techniques are robustly carried out, do participants already have the skills to behave in particular ways? For example, for Becky's project it was found that the participants may have already had the skills to carry out their jobs, but they did not because of systemic procedures.

"I would have liked to see positive results from this, so we could carry on with some of the other training courses, but I can't really show that the e-learning has made a difference because it hasn't..." [Becky, interview 4]

In addition, Becky, pointed out that transfer of learning is not linear; L2 may not automatically lead to L3.

"You're not doing a course and that's going to improve your work, it's not linear like that, there are other things, other variables." [Becky, interview 3]

The use of a hierarchy of levels may have contributed to the difficulty in applying the approach in practice, although they are helpful for framing the points where measurement can take place (Tamkin *et al.*, 2002). For example, Anne HN talked about initially trying to apply the approach in a linear way.

"...we tended to look at levels 1 to 5, and we almost tried to work through it at a linear process, but now we're getting smarter at going in and sort of looking at level 3 first..." [Anne, interview 1]

Further confusion can also be seen when L5 (ROI) is depicted as an outcome level following L4 (impact). The ROI metric is being used to *evaluate the returns of the investment* and does not fit in with the hierarchy of levels of the outcomes and impact of an **investment**. Treating 'non-monetized benefits' as L6 can also be unclear, especially since it is taught as following L4. Non-monetized benefits are part of the organization's performance (L4), i.e., the HC **investment** can impact both monetized and non-monetized performance results.

Criticism of the use of "levels" is centered on the implication that each preceding level must be accomplished before a higher level can be attained (Langmann and Thomas (2017)). There is also the suggestion of a causal link between these levels (Alliger and Janak, 1989; Tamkin *et al.*, 2002). These levels of outcomes, particularly L1 to L3, may be better interpreted as 'domains', echoing Bloom's (1956) classification of learning domains. Therefore, it can be said that SMART objectives should be set and measured against the affective, cognitive, and psychomotor domains. We call these three domains, **people performance** (see Figure 8). These domains operate iteratively throughout the implementation of the HC **investment**.

1. Affective: L1 Stakeholder Engagement (emotions/attitudes, motivation, engagement/buy-in to the **investment**).
2. Cognitive: L2 Knowledge (learning/knowledge transferred as a result of the **investment**).

3. Psychomotor: L3 Behavior (skills/performance/behaviors targeted by the **investment**).

This is a clear distinction from logic model approaches, which focus on measuring a change *process*. Here, the aim is to evaluate the change in *people*, i.e., their behavior changes as a result of the HC **investment**. Therefore, practitioners faced difficulties learning and applying the approach because of the conflation of measurement types. That is, in practice they are attempting to use the approach to measure both the change in *process* and *people's behavior*. However, the approach is more suited to measuring the change in people's behavior. This is the main challenge practitioners faced. We will explore two other significant challenges **below**.

[INSERT FIGURE 8 HERE]

To evaluate the ROI of their HC investments, practitioners need to understand, measure and track people performance. They also need to demonstrate the connection between the investment and the organization's performance (illuminate the 'black box'). Measuring people performance is vital because this connects the HC investment to the organization's performance, i.e., the impact of the intervention on the organization. This is depicted in Figure 9, including the wider governance, and connected management systems. The key to calculating the ROI of HC investments is being able to capture data on actual costs and realized monetary benefits so as to provide credible evidence that the investment impacted the organization's performance. This means demonstrating how participants (via the domains of people performance) were affected by the investment and, as a result, how the investment impacted the organization's performance.

To do this, measurement is approached at individual levels (Jaaskelainen and Laihonon, 2013) and in each domain of people performance, targeted SMART objectives are set and measured against. They must show a clear connection between each other and link the investment to the organization's performance. To be included in the ROI calculation, people performance data has to be isolated from other influencing factors. Therefore, organizations need to have a structured MIS to evaluate HC investments and suitable attribution techniques. This MIS would complement existing systems that collect and analyse the organization performance data but would also include people performance data, as well as realized monetary benefits and actual costs. The MIS would also need to be made available to relevant managers of HC investments for them to carry out the evaluations.

[INSERT FIGURE 9 HERE]

4.4 Challenges in Learning and Applying ROI

The general consensus across all organizations was that the ROI approach was difficult to learn and implement in practice, and full implementation took years to accomplish. Essentially, two underlying reasons for this emerged.

First, adopting the method was conceptually and operationally challenging for participants. It was never a case of gathering relevant competency data and financial estimates from an existing information system, in order to simply add a further analytic level to existing evaluation practices. Rather, before being trained, most participants used or were familiar

with only quite limited evaluation practices. In fact, many needed a better grasp of project planning tools to prepare their HC investments in a way that could be evaluated.

“I would say the most successful element of ROI is probably better project management across projects.” [Hannah, HN interview]

In addition, they were learning how to calculate the ROI metric, *if and when* the relevant information could be identified and accessed. In practice, these data requirements were consistently a challenge often requiring organizational skills to negotiate provision and access. For these reasons, practitioners found that absorbing the ROI ideas and bringing them into their (and their team’s) practice was to engage, both as recipient and provider, in a sustained exercise in knowledge transfer.

The second underlying reason for the difficulties in learning and applying the approach arises from a common misconception about the scope of the approach. This was as a result of how it was introduced to practitioners. The first encounter with the ROI approach, in line with the thrust of its promotion, was as an evaluation tool, as if it could be deployed individually or at a departmental level by a small team of colleagues. In fact, applying the approach in practice quickly required the involvement of a wider group of stakeholders (e.g., operations/line managers and finance personnel) from the rest of the organization, or even beyond, and required political maneuvering on the practitioner’s part, as noted earlier.

Typically, L&D and M&E practitioners do not have access to some types of data and even when they do getting access to accurate data in a timely fashion (as in other studies (Barnow and Trutko, 2015)) would require the co-operation of other colleagues. Later, when applying the **ROI** method to improvement initiatives the circle of those whose co-operation is needed extends further, and the likelihood that the **MIS** will need extension or redevelopment increases. Attempts to implement the approach went further and faster when **procedures** associated with successful implementation were more closely approximated. Only one company (Company CG) showed evidence of these **procedures** being present – and it was the only organization to have calculated ROI on more than one investment (i.e., full implementation of the approach). The other organizations showed evidence of some of the stages/steps in **the method** but struggled to implement the approach to the same extent.

As with other studies, e.g. Doherty and Dickmann (2012), efforts to secure ‘buy-in’ were not always or immediately successful. Colleagues of these practitioners deployed varying degrees of defensive routines, such as blocking access to data. Examples included the finance department resisting sharing the organization’s performance data that is required for L4, as well as managers resisting collecting follow up data from participants in the intervention for L3. These stakeholders appear to have felt threatened by the new approach and have in effect blocked or delayed the implementation of the approach in the organization (Argyris, 2004; Argyris and Kaplan, 1994).

These two underlying difficulties also address the question *‘how are human capital investments evaluated using an ROI evaluation approach?’* However, they provide an unduly negative picture. Organizations in this study had ‘ROI Champions’ (advocates) who were passionate about getting the approach implemented, even recruiting other champions. The practitioners were also using other types of techniques to engage their colleagues. They were gaining stakeholder buy-in by exploiting existing relationships with stakeholders: networking

“so maybe we stick that on as an agenda item early in the new year and say this is what we’re doing, this is how we’re going to do it, we need your support on this, we

need you to go and talk to people who have an influence on this because it's really important and this is why..." [Ivan, interview 2]

and by highlighting shared needs

"...we need the HR data and HR are very interested in the fact that some of the stuff that they're doing very manually at the moment could well be managed with the LMS." [Cynthia, CI, interview]

These practitioners were adapting the implementation of the approach to suit their own settings. This was being achieved through a shared desire with their stakeholders to demonstrate that they were making a difference. Stakeholders would appreciate getting the data, being able to discuss what the data was revealing and using the data in their roles.

As they learnt the approach, practitioners were recognizing the need to better evaluate their **investments**, and to standardize how they planned and evaluated them. They reported being able to connect these **investments** to the organization's performance results, using a common language among colleagues, and becoming more confident to apply the approach and to deal with the challenges encountered. The study revealed that this resulted in changed behavior, where practitioners applied all or parts of the approach. **This is depicted in Figure 10.** Partial implementation was much more common, and this was seen as a useful advance, not as failure. These reported benefits seem to explain why in many of the case units, partial implementation was sustained for long periods of time.

[INSERT FIGURE 10 HERE]

5. Conclusions

5.1 *Theoretical Implications*

Our literature review revealed that there may be different interpretations of ROI in practice. As this is the first study to explore how the ROI financial metric is applied in a new area, demystifying the interpretations of ROI was imperative (RQ1: *how is the return on investment (ROI) metric interpreted?*). The study revealed a trichotomy of interpretations, called the 3M interpretation of ROI: metaphor, metric, and method. The method interpretation encompasses metric and metaphor: applying the method involves going through a process, while specifying a desired goal for the investment (metaphor) and potentially collecting data to calculate the metric. This trichotomy was also diffused in practice as practitioners from different functions communicated with each other using the ROI term in these forms. Therefore, ROI could be considered a bridging metric, as it bridges the communication gap between diverse functions, such as finance and training. It was also observed that the ROI approach was used as an aspirational map. It provided an overview of where practitioners were in measuring their HC investments and where they would like to go in the future. Practitioners applied the method in stages, moving on to a new stage as they gained expertise. Consequently, the method is seen as a map for planning and evaluating HC investments that they aspire to complete.

Evaluating the returns of HC investments have been largely focused on the aggregate level, with scholars advocating for further studies examining measuring the ROI of HC investments at the micro level. Our study contributes to this area as we explored how an ROI approach was being used to evaluate investments in HC (RQ2: *how are human capital investments evaluated using an ROI evaluation approach?*). In line with other HC scholars, we focused on training as the lens to view HC investment. We confirmed that learning takes place within the three domains of HC (knowledge, skills, and attitude)/people performance (cognitive, psychomotor, and affective). However, we argue that this does not occur in a linear way as evaluation approaches suggest. Rather, change in the domains of people performance occurs iteratively and interrelate. Therefore, we propose that evaluating learning needs to occur within these three domains at the individual level, then aggregated at organisational level and country level if required. Moreover, measuring and tracking the changes within these domains (people performance) is key to evaluating the returns on HC investments.

5.2 *Implications for Practice*

Evaluation approaches using the logic model measure the change in the *process* as a result of the intervention, i.e., the inputs of an intervention affect the activity and consequently the outputs, then the outcomes and impact on the organization. By contrast, approaches such as the ROI approach, measure the change in behaviour of the *people* participating in the investment activity, i.e., what they learnt during the investment activity and the changes observed in their behaviour and how this impacts the organization's performance. Therefore, organizations can feasibly select different types of evaluation approaches, dependent on their need.

Even so, applying a financial metric to measure HC can be difficult, especially where interpretation of the metric is ambiguous. The 3M interpretations of ROI help clarify the different meanings and practitioners can refer to these when communicating with peers from other functional areas. Furthermore, practitioners need access to people performance data and suitable attribution techniques when evaluating HC investments. They need to be able to

show the connection between the HC investment, each domain of people performance, and the organisation's performance. The study exposed several challenges in this respect, categorised as defensive routines, where buy-in from the wider organization was not always forthcoming. This emphasised the pivotal role played by the ROI champions in building stakeholder engagement and adapting the implementation to the organizational context.

5.3 Limitations and Further Research

These research findings of course have limitations. The study could have benefited by including more longitudinal cases (from start to finish, i.e., from Foundation workshop to impact report for a live project). However, this could not be achieved because of timing and availability of practitioners with these types of investments within the duration of the study. This means that the results of the study are not statistically representative of the general population of organizations applying the ROI metric to HC investments via evaluation approaches. However, with qualitative studies this is not the goal. Instead, the aim was to achieve an authentic representation of how practitioners interpreted the metric as they applied it in an evaluation approach to assess their investments in human capital. The analytic generalizations can be used as a starting point for further studies on other ROI approaches and financial metrics, as well as further comparison across a variety of management domains.

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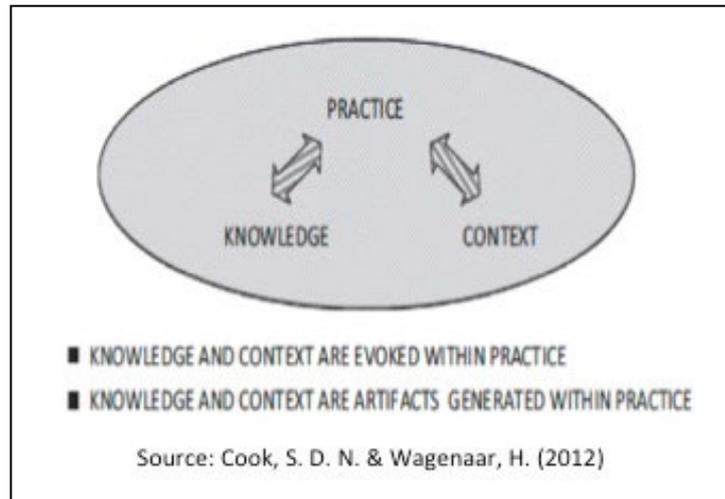


Figure 1: Cook and Wagenaar's Practice Perspective

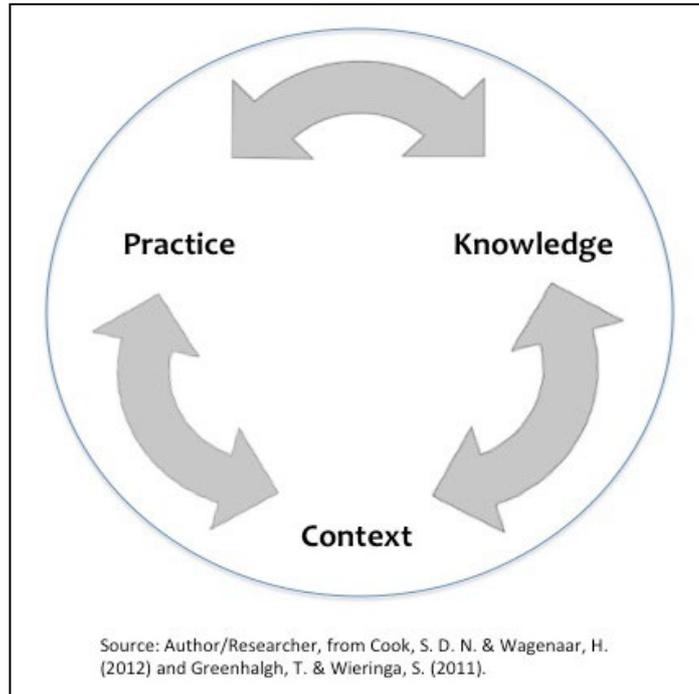
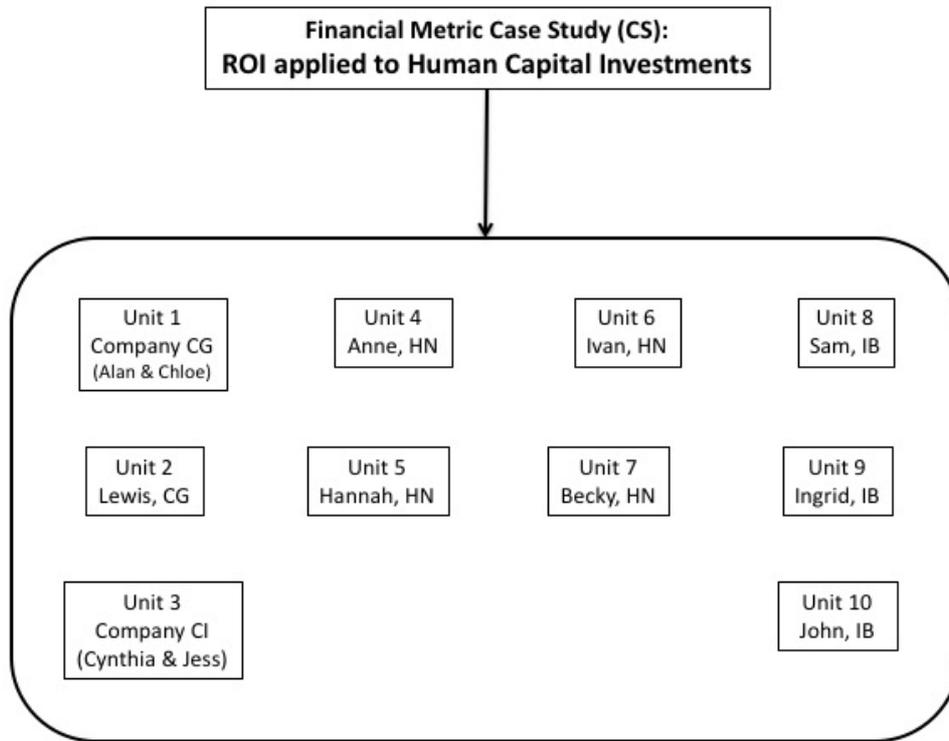
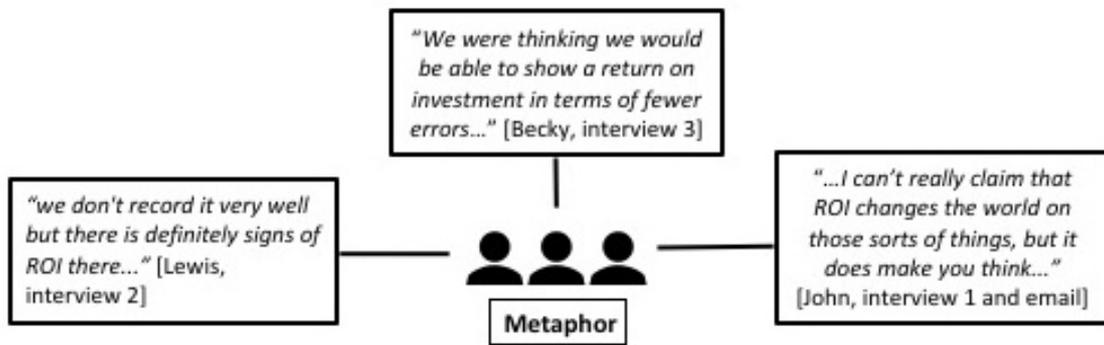


Figure 2: The relationship between practice, knowledge, and context



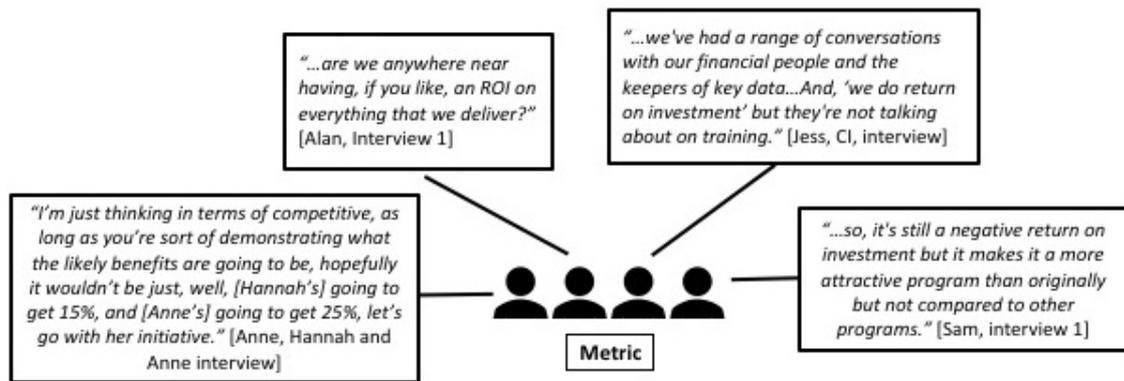
Source: Authors/Researchers

Figure 3: Embedded case study structure



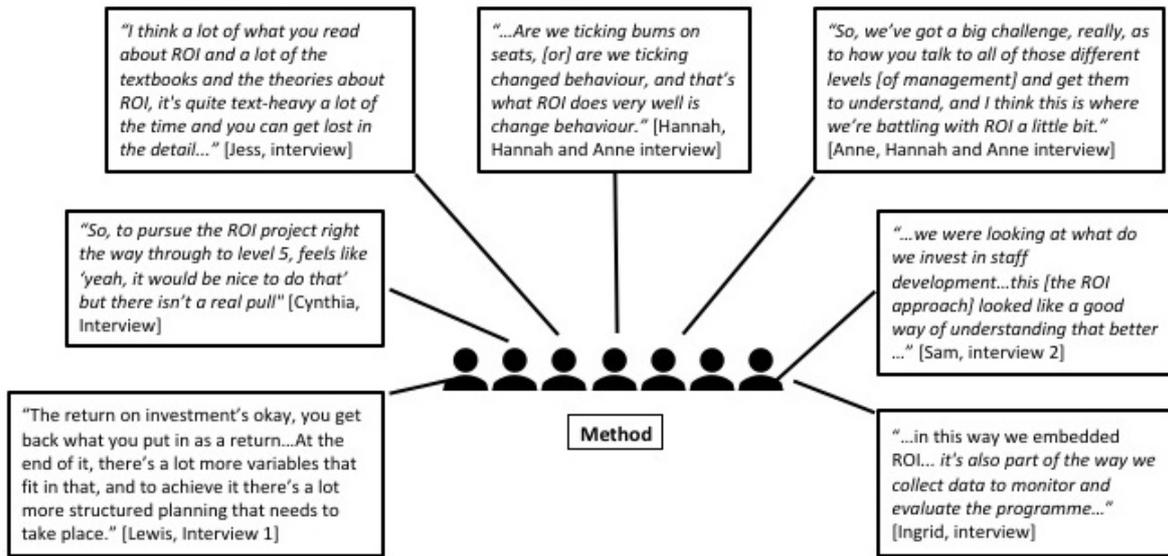
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Figure 4: ROI Interpretations (Metaphor)



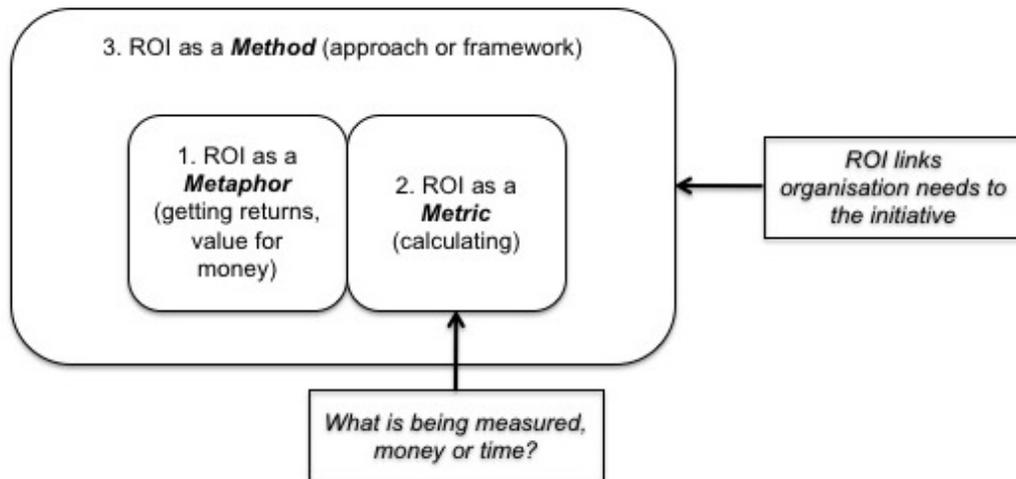
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Figure 5: ROI Interpretations (Metric)



Source: Authors/Researchers

Figure 6: ROI Interpretations (Method)



Source: Authors/Researchers

Figure 7: ROI interpretations

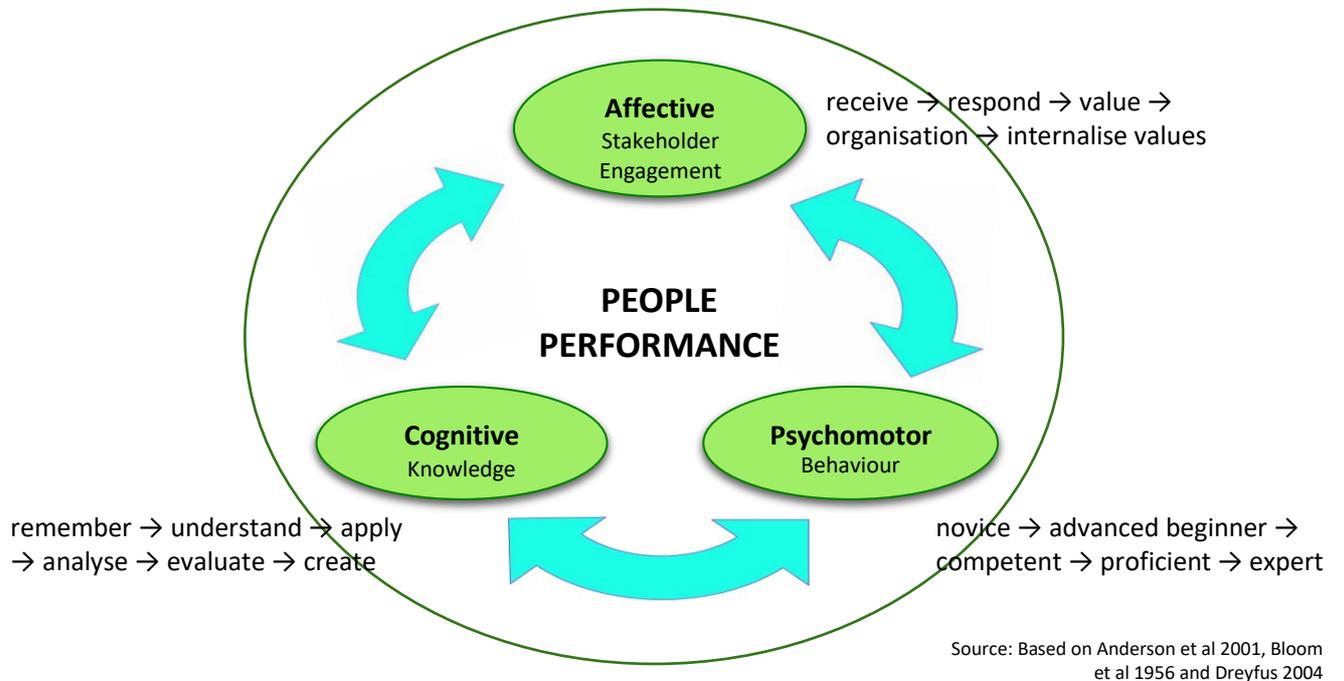


Figure 8: People Performance

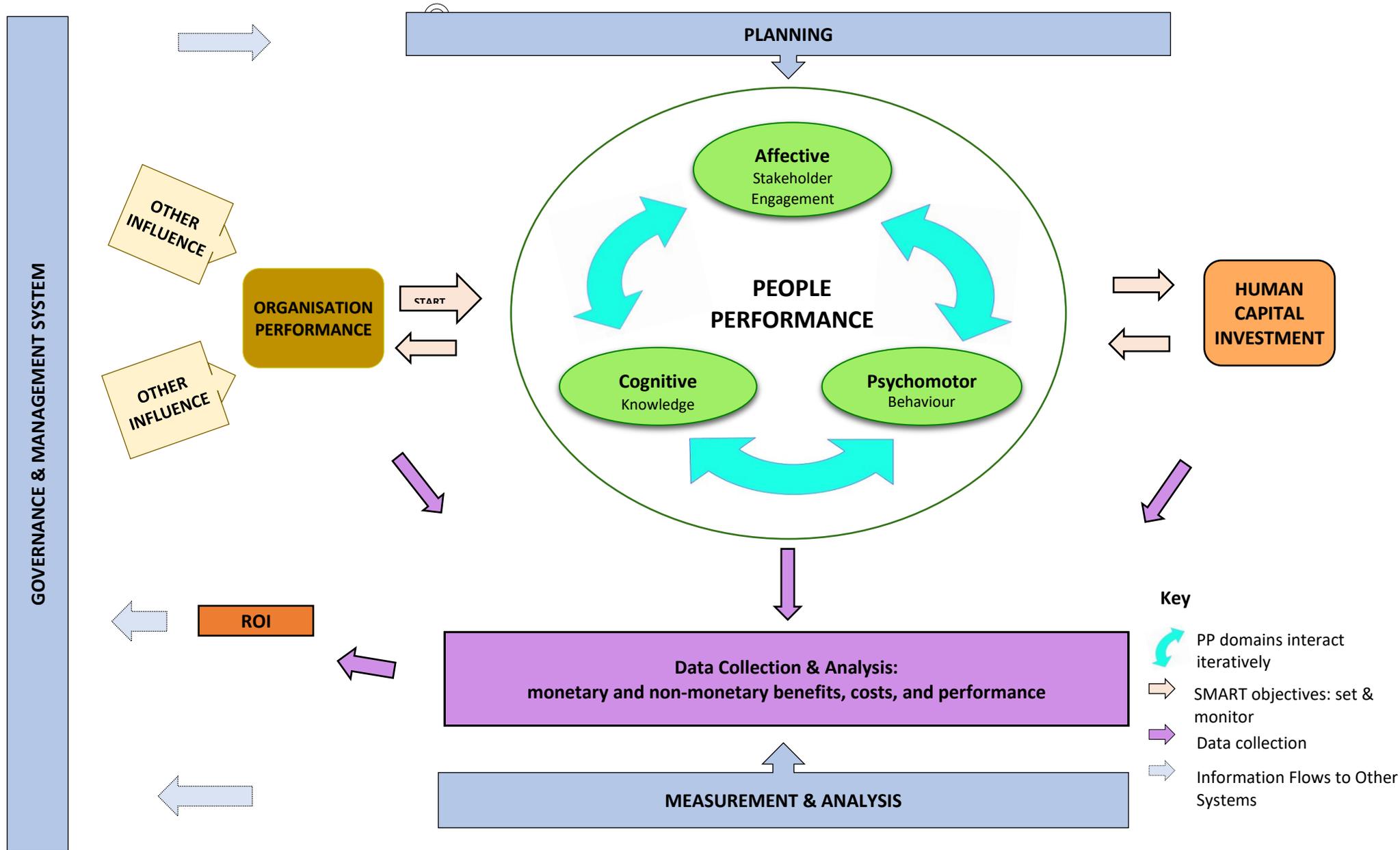


Figure 9: Actual Application of the ROI Approach

(Source: Authors/Researchers)

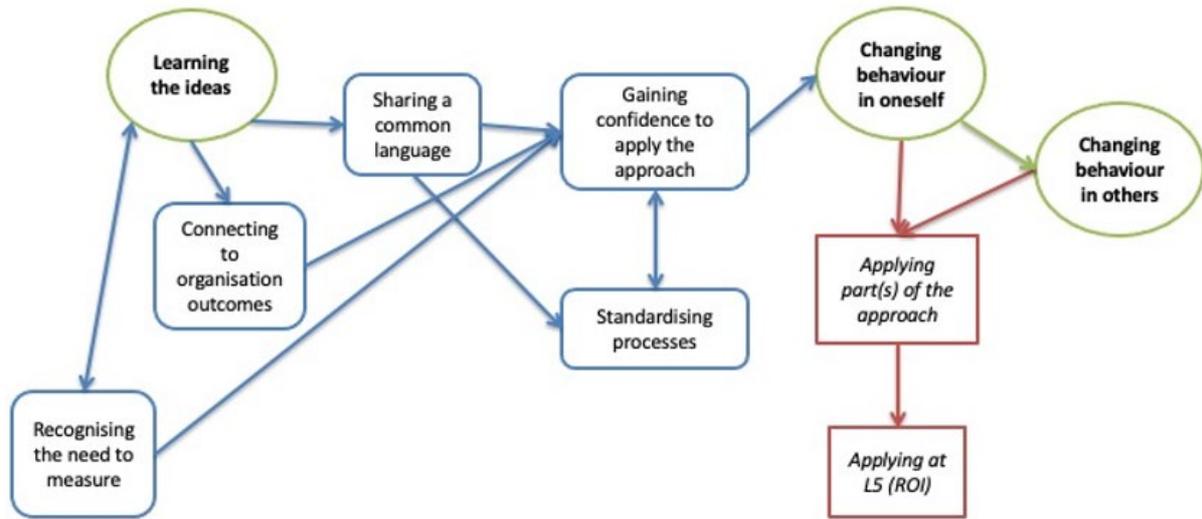


Figure 10: Milestones in Applying the ROI Approach

Table 1: ROI Case Study – Summaries of Embedded Units

Units	Summaries	Observation	Interviews	Documents
1 <i>Company CG</i> <i>Alan & Chloe</i>	Company CG is the learning service (LS) unit in an automotive company. Application of the approach has been supported from a senior management level; therefore, all LS employees were encouraged to complete abdi's ROI Foundation workshop. CG have evaluated a few initiatives to ROI (L5), the only organization in this study to have done so. The approach is used in a systematic way to determine if a training programmes is required in response to a management/organizational need.	Y	2 (1 with Chloe) 3 (1 with Alan)	Y
2 <i>Lewis, Company CG</i>	Lewis had been promoted to a new role within CG and recently completed the Foundation workshop. He was responsible for 10 trainers in the product training team and oversaw the planning and execution of a range of training projects. He completed his first evaluation during the study using the approach.	Y	2	Y
3 <i>Company CI</i> <i>Jess & Cynthia</i>	Company CI is the LS unit in a public, multinational organization, providing engineering products to niche markets globally. The unit had recently completed Foundation workshops, except Jess who introduced CI to abdi after joining the unit. Although there was no demand from senior management, Cynthia (LS manager) believed that they had a responsibility to evaluate key L&D initiatives. They implemented systems to evaluate L&D initiatives using the approach but had not yet evaluated any initiative.	N	2	N
4 <i>Anne, HN</i>	HN was a strategic health authority within the NHS. They began funding abdi workshops to equip training personnel to be able to demonstrate the impact of training.	N	2 (1 with Hannah)	Y

Units	Summaries	Observation	Interviews	Documents
	Anne has been working with HN for around 30 years in a variety of roles. Her current role was at a strategic level and she worked closely with a university and two colleges in her area to conduct the training required for her learners. She was one of the first to attend the abdi workshops and has completed numerous evaluations using the approach. She used one of her training programmes in this study.			
5 <i>Hannah, HN</i>	Hannah was also one of the first persons to attend abdi's workshops and has worked with HN for about 10 years as a manager for L&D. She subsequently joined a Commissioning Support Unit. She has evaluated numerous initiatives using the approach. She shared information on one of her projects, which targeted multi-agency practitioners for geriatric care provision.	N	2 (1 with Anne)	Y
6 <i>Ivan, HN</i>	Ivan worked with Anne in one of the units overseen by HN. He completed the ROI Foundation award when he started and attempted his first ROI evaluation during the study. This project targeted participants in a healthcare mentoring program.	Y	3	Y
7 <i>Becky, HN</i>	Becky worked in one of the Teaching Trusts overseen by HN, which employed around 13,000 employees. She collaborated with a number of different stakeholders including key hospital departments as well as university experts. She developed e-learning packages that were normally offered indefinitely and were not assessed on whether they were effective or had any impact. During this study, she evaluated an e-learning project that targeted employees serving outpatients in three departments at a hospital.	Y	4	Y

Units	Summaries	Observation	Interviews	Documents
8 <i>Sam, IB</i>	IB is a UK charity that works with a variety of partners and has offices across the globe. They deliver a diverse range of projects in international development. Sam is the key person behind the implementation of the ROI approach and one of the senior managers at IB, with extensive M&E responsibility. He was introduced to the ROI approach at a HR conference. He has evaluated many initiatives using the approach.	N	4 (1 with colleague)	Y
9 <i>Ingrid, IB</i>	Ingrid was an IB global manager, who had worked with IB for over a decade mostly in a M&E capacity. She was leading the delivery of one of its programmes across 28 countries. During the study, she was carrying out a pilot test of the application of the ROI approach to evaluate this program across 5 of these countries.	Y	1	Y
10 <i>John, IB</i>	John is a senior manager at IB and an expert in M&E. He had been working with them in a variety of roles for many years, accepting his current role in 2009. Throughout his career he had conducted evaluation exercises on a number of projects, using abdi and other evaluation approaches.	N	3	Y

Table 2: Observations of application of the ROI method

Levels	Objectives	Analysis
L1	<p>Five recommended questions include four that cover:</p> <ol style="list-style-type: none"> 1. importance of the intervention to the person (attitude/motivation) 2. importance of the intervention to the organization (attitude/motivation) 3. willingness to recommend the intervention to others 4. intentions to apply what was learnt 5. new knowledge gained from the intervention 	<p>Observation: all participants prepared objectives, following the standards set in the ROI method.</p> <p>Objective 5 would be more aptly placed at L2</p>
L2	<ol style="list-style-type: none"> 1. what is to be learnt ('know what') 2. how the knowledge is to be applied ('know how'/skills) 3. ascertain attitude and confidence to apply the new knowledge 	<p>Objective 2 are to ensure the learners have the knowledge to apply the skills. Therefore, this should be at L3, where learners would be evaluated on whether they have applied the new knowledge.</p> <p>Objective 3 is really a L1 (attitude and confidence) objective.</p>
L3	<p>Have participants applied the new knowledge to the standards set?</p>	<p>Observation: for most participants, baseline data on prior knowledge was not collected.</p> <p>Resistance from line managers to collect and provide data on learners' performance. It was seen as an additional task for them to do and they queried the relevance and importance of doing this.</p>
L4	<p>Measure changes in the organizational performance indicators targeted.</p>	<p>Acquiring relevant data was difficult, sometimes impossible for some participants.</p>
L5	<p>Calculate ROI using metric.</p>	<p>Only one participant at Company CG, Alan, successfully calculated ROI on a few initiatives.</p>
L6	<p>Collect intangible/non-monetized data on performance.</p>	<p>Observation: all participants collected anecdotal feedback on their initiatives. These tended to be qualitative.</p>

