

GROWING LEADERS: THE EVALUATION OF A CUSTOMISED LEADERSHIP DEVELOPMENT PROGRAM

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Introduction

This paper presents some key findings of a research project that evaluated the performance of a customised, six-month leadership development program (LDP). This program was designed for 20 emerging leaders who were promoting sustainable urban water management (SUWM) in the Sydney region of New South Wales. Here, the term ‘leader’ is used to describe individuals who drive *processes of influence* that occur within the context of relationships with their collaborators, and involve establishing direction (vision), aligning resources, generating motivation and providing inspiration (see Kotter, 2001; Rost, 1993).

Customised, evidence-based and best practice LDPs have been recommended as one mechanism to build desired forms of leadership capacity within the Australian water industry to help successfully manage the transition from traditional to more sustainable forms of water management (see Brown *et al.*, 2006; Taylor, 2008; White, 2006). The rationale for building leadership capacity has three dimensions. First, the Australian water industry is experiencing unprecedented levels of change and uncertainty due to factors such as severe droughts, climate change predictions, rapidly increasing populations and increased recognition of the need for more sustainable water management practices (see Davis, 2008; Kaspura, 2006). In such turbulent contexts, there is a greater need for professionals with highly developed leadership abilities (see Conger, 1993; Kotter, 2001).

Second, the challenge of making the transition to ‘water sensitive cities’ (Brown *et al.*, 2009) fits the description of a ‘complex challenge’ (Drath, 2003) which is also known as a ‘wicked problem’ (Rittel & Webber, 1973). Such challenges are characterised by disagreement among stakeholders on the causes and solutions, a tendency to cross jurisdictional and organisational boundaries, numerous inter-dependencies, the need to change people’s behaviour, instability, and a history of chronic policy failure (Commonwealth of Australia, 2007). Leadership researchers (see Drath, 2003; Plowman *et al.*, 2007; Snowden & Boone, 2007; Uhl-Bien *et al.*, 2007) argue that such challenges are best suited to leaders with particular attributes (e.g. an openness to new approaches and the ability to engage in systems thinking) and particular forms of leadership (e.g. coordinated forms of group-based leadership that span organisational boundaries and managerial levels).

Finally, there is now strong evidence that emergent leaders with particular attributes (i.e. ‘champions’; see Taylor, 2007) are instrumental in initiating and driving leadership processes to promote SUWM in Australia (see Brown, 2003; Brown & Clarke, 2007; Taylor, 2008; White, 2006). Recent research by Taylor (2008) has identified the leadership behaviours used by these champions within publicly-managed Australian water agencies.

Given the potential value of building leadership capacity in water agencies to help promote SUWM, a research project was formulated at Monash University in partnership with the NSW Environmental Trust (part of the NSW Urban Sustainability Program). This project used knowledge of effective SUWM champions and best practice LDPs (see Taylor, 2008) to design, deliver and evaluate a six-month, 'feedback intensive' LDP (see Guthrie & King, 2004) for actual or potential SUWM champions in water agencies. The primary aim of the program was to help emerging leaders working at the 'entry' to 'team leader' managerial levels to strengthen their leadership skills so they could be more effective at promoting SUWM. The LDP was based in Parramatta and was part of a larger project in the region titled "Working Together to Sustain the Parramatta River" that was delivering SUWM infrastructure in the Parramatta River catchment.

This paper answers the following three research questions: Was the program valued by participants in terms of its quality and likely impact on their leadership ability? Was the program associated with changes in desired leadership behaviours, as assessed by the peers of participants? Is it likely that the program will deliver a positive 'return on investment' (ROI; see Phillips, 2007) after one year? To answer these questions, the paper draws on a sub-set of the project's entire evaluation data set.

The following chapter describes the design and content of the LDP, provides an overview of the whole evaluation methodology, and describes how the data presented in this paper were collected. A selection of evaluation results are then presented and discussed that relate to three research questions. The paper concludes by highlighting the primary findings from the evaluation, flagging some limitations of the research, and suggesting some implications for researchers and practitioners.

Methodology

Program design and content

The *design* of the program was informed by an international literature review (see Taylor, 2008). Figure 1 provides an overview of the program's key elements. These included: pre-training reading and exercises; an on-line, pre-training '360 degree' questionnaire (see Chappelow, 2004) to identify leadership strengths and weaknesses using anonymous feedback from peers and supervisors; three days of intensive training in October 2008 using a variety of locally-validated conceptual frameworks, individual and group exercises, and data from the 360 degree questionnaire; the development of draft 'Individual Leadership Development Plans' (ILDPs) for each participant; expert review of these ILDPs; two one-to-one coaching sessions; and a final, one day 'booster' training session in February 2009 that included more feedback on leadership behaviours from the participants' peers and an opportunity to revise each ILDP to facilitate their use after the program.

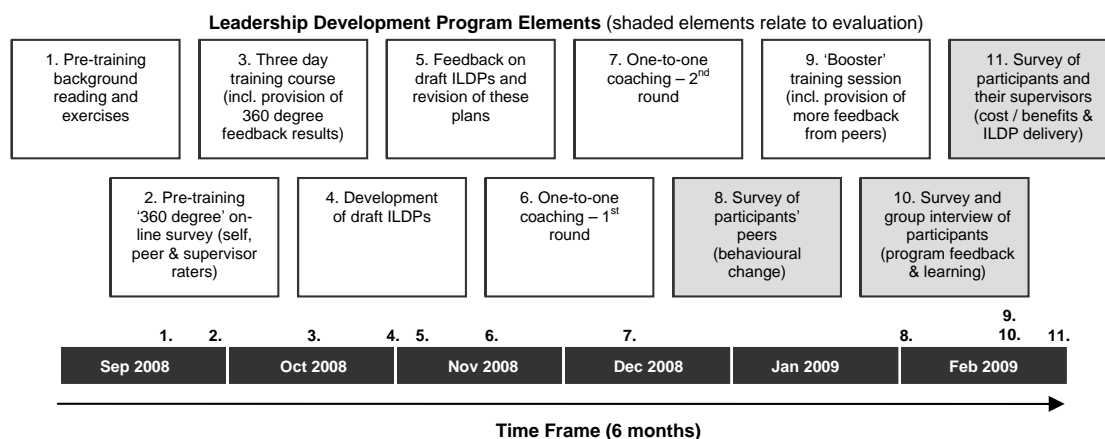


Figure 1 – Key elements of the program's design

The *content* of the program's training was based on findings from three bodies of research. The first was recent research by the author that investigated the attributes of effective SUWM champions and group-based leadership processes in Australian water agencies (see Taylor, 2008). The second was international, peer-reviewed organisational leadership research, such as research on 'transformational leadership' (see Bass, 1999). The third was research on strategies to continually develop as a leader throughout one's career (see Avolio, 2005; McCauley & Van Velsor, 2004). This approach was taken to ensure that participants focused on skills and behaviours associated with effective SUWM champions in Australian water agencies, but also learnt about effective leadership behaviours within organisations per se. It also aimed to ensure participants could *continue* to develop as leaders after the program as leadership development is widely acknowledged as a challenging, lifelong process (Avolio, 2005).

Program evaluation

This section provides an overview of the entire evaluation process then focuses on the methods that were used to collect data that are presented in this paper.

The evaluation of the program used a seven tier framework that has been used in over 3,000 organisations to assess the net benefit of human resource interventions (see Phillips, 2007; Phillips & Phillips, 2002). Table 1 summarises this framework, as well as the data sources and collection methods that were used for each tier. Tier 1 involved gathering data on participant satisfaction and planned action (e.g. obtaining feedback on the program's strengths and weaknesses, and reviewing the quality of their ILDPs). For tier 2, data were gathered that related to participant learning (e.g. assessing whether key messages from the October training were recalled in February). During tier 3, the participant's application of knowledge was examined (e.g. the extent to which desired leadership behaviours had changed was investigated). For tier 4, the total cost to run the program was estimated. Tier 5 involved *estimating* the tangible program benefits in financial terms (e.g. the approximate value of the program to the participants' organisations). For tier 6 the intangible program benefits were identified (e.g. benefits such as increased motivation to take on leadership roles). Finally, Tier 7 involved *estimating* a conservative, average ROI for program participants after one year. The ROI is defined by Phillips & Phillips (2002) as:

$$\text{ROI \%} = \frac{[\text{The total financial benefit to the participant's organisation for 1 year (\$)}] - [\text{The total program cost (\$)}]}{\text{The total program cost (\$)}} \times 100\%$$

Table 1 – Overview of the program’s seven tier evaluation framework

Tier of evaluation (adapted from Phillips & Phillips, 2002)	Data and data source	Data collection methods
1. Participant satisfaction and planned action.	a) Data from participants on the: <ul style="list-style-type: none"> ▪ Quality of the program’s design, delivery and materials. * ▪ Program’s strengths and weaknesses. b) The quality of the 20 final ILDPs, as assessed by the researcher.	a) Post-program questionnaire and group interview (qualitative and quantitative data). * b) Assessment of final ILDPs against best practice principles (qualitative data).
2. Participant learning.	Data from participants on whether key messages from the October 2008 training were retained in February 2009.	Post-program multiple choice questionnaire (20 questions, quantitative data).
3. Application of knowledge.	a) Data from participants on the degree to which the actions in their ILDPs were implemented, and peer review of this data by the participants’ supervisors. b) Data from the participants’ peers on changes in key leadership behaviours over the program’s timeframe. *	a) Post-program questionnaire involving the participants and their supervisors (qualitative and quantitative data). b) Survey of participants’ peers (at least 5 per participant) in early February 2009 using questionnaires that were customised for each participant and aligned with ILDPs. *
4. Total program cost.	a) Data from participants on all of the costs that their organisations incurred due to their involvement with the program and peer review of this data by their supervisors. b) Estimates from the researcher on all other costs associated with delivering the program.	a) Post-program questionnaire involving the participants and their supervisors (quantitative data). b) Estimates related to the cost of running such a program at consulting rates rather than as a research project (quantitative data).
5. Tangible program benefits / business impact.	Data from participants on: <ul style="list-style-type: none"> ▪ The percent of their role that was potentially affected by the program, and the level of confidence in this estimate. ▪ The percent improvement in their ability to perform leadership elements of their role as a result of the program, and the level of confidence in this estimate. ▪ Their annual salary and on-costs. These data were also peer reviewed by the participants’ supervisors.	Post-program questionnaire involving the participants and their supervisors (mainly quantitative data).
6. Intangible program benefits.	Data from participants on: <ul style="list-style-type: none"> ▪ Benefits from the program that could not be expressed in financial terms, such as increased motivation to lead, positive impact on staff and benefits outside of work. 	Post-program questionnaire involving the participants (qualitative data).
7. Return on investment.	a) Data from Tier 4 (i.e. total program costs) and Tier 5 (i.e. tangible program benefits) to produce an <i>estimate</i> of ROI for each participant and the whole program (i.e. average ROI). * b) Data from participants on factors that helped and hindered their developmental progress and therefore affected the ROI (e.g. intrinsic motivation, organisational support, etc.).	a) ROI methodology from Phillips (2007) and Phillips & Phillips (2002 & 2003). * b) Post-program questionnaire involving the participants (qualitative and quantitative data).

Note: * = data that are most relevant to this paper.

To answer the research question: *Was the program valued by participants in terms of its quality and likely impact on their leadership ability?* this paper presents data from a post-program questionnaire and group interview. The group interview asked for general feedback on the program’s strengths and weaknesses, while the questionnaire included questions relating to the program’s quality such as: “Please rate the quality of the program’s design (e.g. its elements such as pre-training materials, 360 degree feedback, initial training days, development of ILDPs, coaching sessions, booster training session, etc. and how these worked as a package)”. A 1 to 7 Likert-type scale was used where 1 was “very low” and 7 was “very high”.

The questionnaire also included the following question: “Please rate the program’s overall impact on your leadership ability (i.e. your ability to engage in processes of influence that involve setting direction / vision, aligning resources to this vision, and motivating and inspiring colleagues).” A 0 to 10 scale was used where 0 represented a decline in leadership ability since September 2008, 1 represented no change, 2 represented a “very low” level of improvement and 10 represented a “very high” level of improvement.

Participants were also asked to estimate the level of confidence they had in their answer to the previous question using the scoring key: 0% = “I don’t know”; and 100% = “I am certain”. This allowed self-assessed estimates of the program’s likely impact to be discounted to provide more conservative estimates. This approach is used as part of the ROI estimation methodology (see Phillips & Phillips, 2003).

To answer the research question: *Was the program associated with changes in desired leadership behaviours, as assessed by the peers of participants?* this paper presents data from an anonymous questionnaire that gathered data from peers who worked closely with the participants. This questionnaire provided peers with a list of leadership behaviours that was customised for the participants they were rating. These behaviours were derived from each participant’s ILDP, but they were also behaviours that should have been visible to colleagues on a daily basis (e.g. “frequently exhibiting enthusiasm and confidence”). At least five peers of each participant were asked to indicate whether they had observed any changes in the listed behaviours since late September 2008 using a 0 - 10 scale similar to the one described earlier.

To answer the final research question: *Is it likely that the program will deliver a positive ‘return on investment’ after one year?* this paper presents an *estimate* of the average ROI for participants after one year using methodology from Phillips (2007) and Phillips & Phillips (2002 & 2003). Participants were given a questionnaire at the end of the program to collect data on the estimated costs and benefits that their organisations incurred as a result of the program.

To estimate the total cost to the program, the author estimated what it would cost to run a similar program in the future at consulting rates (i.e. outside of a research project), assuming that the core materials were available. For 20 participants this cost was approximately \$2,900 each (including GST). Each participant also estimated the total cost to their organisation for their involvement. These costs included all of the paid time spent on the program by participants, their supervisors and peers (including ‘on-costs’ to cover organisational overheads such as superannuation and office space), travel and additional purchases (e.g. books). Supervisors peer-reviewed these estimates to ensure they were reasonable but conservative.

To estimate the tangible benefits of the program, participants were asked to estimate the percentage of their current role that had the potential to be affected by the program, and the percent improvement in their ability to successfully complete elements of their role that involve leadership behaviours as a result of the program. They were also asked to indicate their level of confidence associated with these estimates (using the key: 0% = “I don’t know”; and 100% = “I am certain”) so these estimates could be discounted and made more conservative. Their supervisors were also asked to complete a peer review of these estimates to assess whether they were reasonable. Where there was disagreement between participants and their supervisors relating to cost-benefit estimates, the more conservative estimates were used.

The equation used to estimate the financial benefit (FB) of the program over one year (per participant) is given below:

FB [\$2009 AUD] = (Participant’s annual salary x a locally applicable ‘on-cost’ multiplier [\$]) x (Fraction of their role potentially affected by the program x corresponding confidence estimate [expressed as a fraction of 1]) x (Improvement in their leadership ability as a result of the program x corresponding confidence estimate [expressed as a fraction of 1]).

The methodology to estimate an average ROI has been designed to generate a very *conservative* figure. Relevant design features include only considering tangible benefits (i.e. it does not consider intangible benefits such as those associated with improved motivation to lead, more motivated staff, or improved leadership effectiveness outside the workplace). The methodology also only includes benefits from using newly developed leadership skills during the following year, even though most participants had the potential to be in the workforce for an additional 20 to 40 years. In addition, one would expect the portion of the roles undertaken by participants that require leadership skills to grow over their careers as they move into more senior positions. Another conservative design feature is that the methodology does not include the long-term benefits of learning how to improve one’s leadership skills over one’s career. The methodology also discounts benefit estimates using data on the level of confidence associated with these estimates, and ensures that supervisors review the participants’ cost-benefit estimates to identify the most conservative estimates. In addition, the benefits from the ‘booster’ training at the end of the program would not have had time to materialise before participants provided data relating to the program’s benefits. Finally, 95% confidence intervals around averages were used during quantitative data analysis to help draw conservative conclusions regarding the magnitude of the average estimated ROI.

Results and Discussion

Program quality, likely impact, strengths and weaknesses

Figure 2 presents the averaged ratings from all 20 participants for items in a post-program questionnaire that related to the quality of the program’s design (88%), delivery (90%) and materials (83%). This figure also shows the 95% confidence intervals around the average ratings, indicating there was little variation in the individual ratings between participants. Overall, these data indicate that from the participants’ perspective, the quality of the program’s design and delivery was “high” to “very high”, while the quality of the program’s materials was “high”.

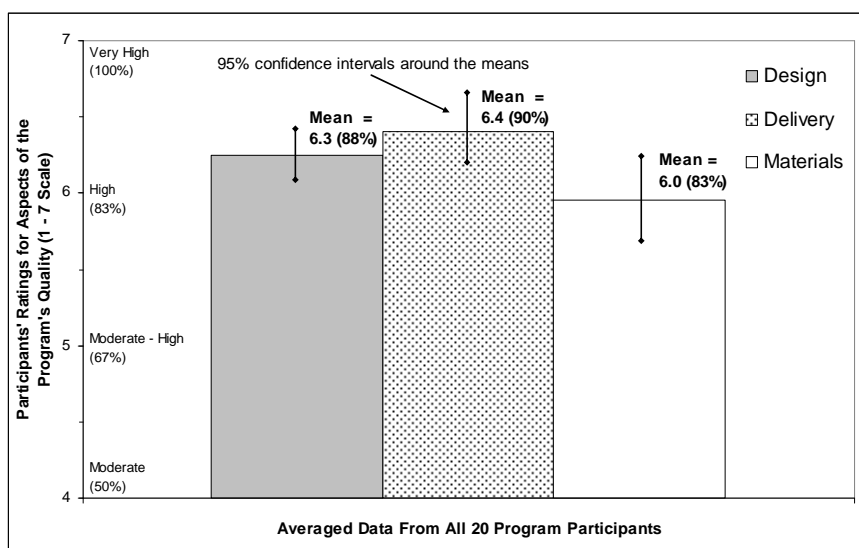


Figure 2 – Program quality (participant assessment)

Figure 3 presents the averaged ratings from all 20 participants regarding the program’s overall impact on their leadership ability. The lowest raw rating by any participant was 6 on the 0 – 10 scale (i.e. a “moderate” impact) and the average was 7.1 (i.e. “moderate” to “high”, or 68% on the scale). As this is self-assessed data, *discounted* scores have also been provided. For example, a raw rating by a participant of 8 on the 0 - 10 scale (78%) with a 80% confidence rating would become a discounted rating of 63% (as 78% x 0.8 = 63%). Once again, the 95% confidence intervals around the average ratings indicate there was little variation in individual ratings between participants. Overall and taking a conservative approach, these data indicate that from the participants’ perspective, the average impact of the program on their leadership ability was “moderate” (around 53% on the scale) after six months.

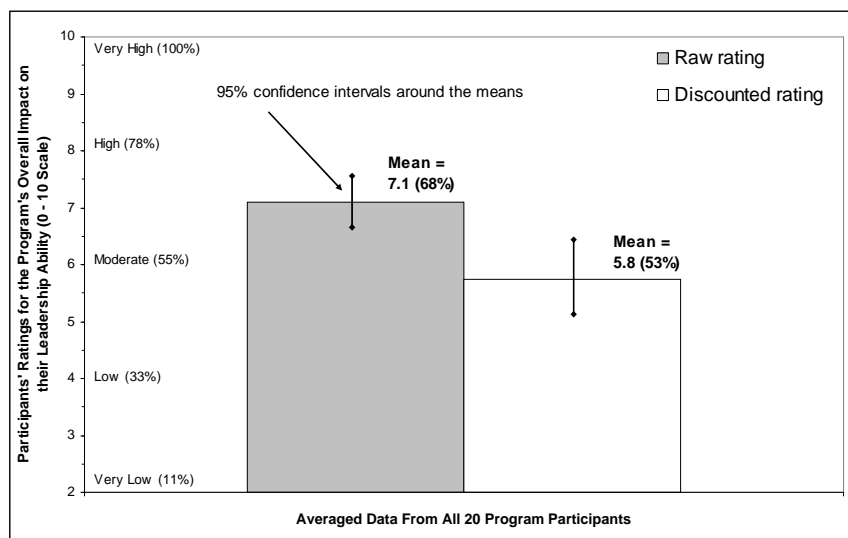


Figure 3 – The program’s overall impact on leadership ability (participant assessment)

During the group interview, participants shared their views on the strengths and weaknesses of the program. The majority of strengths related to the design of the program, such as the 360 degree feedback element, self-reflection and group exercises, the structure of ILDPs, and coaching activities. Other strengths included the program’s condensed information on relevant leadership theory, supporting resources, and facilitation of valuable mentoring arrangements. Suggested improvements included extending the length of the program beyond six months and avoiding the summer holiday season. Participants also suggested increasing the variety of activities during the first three days of training, streamlining the five training modules to reduce their overlap, and providing more guidance on Transformational Leadership Theory and development (see Avolio, 2005; Bass, 1999). Overall, the group interview indicated the program was of a high standard, but could be even more effective with some relatively minor adjustments.

Behavioural change

Figure 4 presents the average peer ratings (on a 0 – 10 scale) for the level of improvement in three key leadership behaviours that were used by 13 participants over the program’s timeframe. The 13 participants were those who generated completed peer-assessment surveys from at least three of their peers, after requesting such surveys from at least five peers. The three key leadership behaviours were chosen by each participant as being the most important frequently used behaviours they were working to improve as part of their ILDP.

Overall, Figure 4 indicates considerable variation in the participant ratings, ranging from “low” to “high” levels of improvement. There is a high degree of confidence, however, that desired behavioural change occurred during the program and that this level was, on average, “moderate”. As it was not practical to establish a control group during the program, these data demonstrate an association between the program and behavioural change, not necessarily causation. This highlights the need for, and value of, an evaluation framework that uses multiple sources and methods (see Table 1) to build confidence that the program facilitated change.

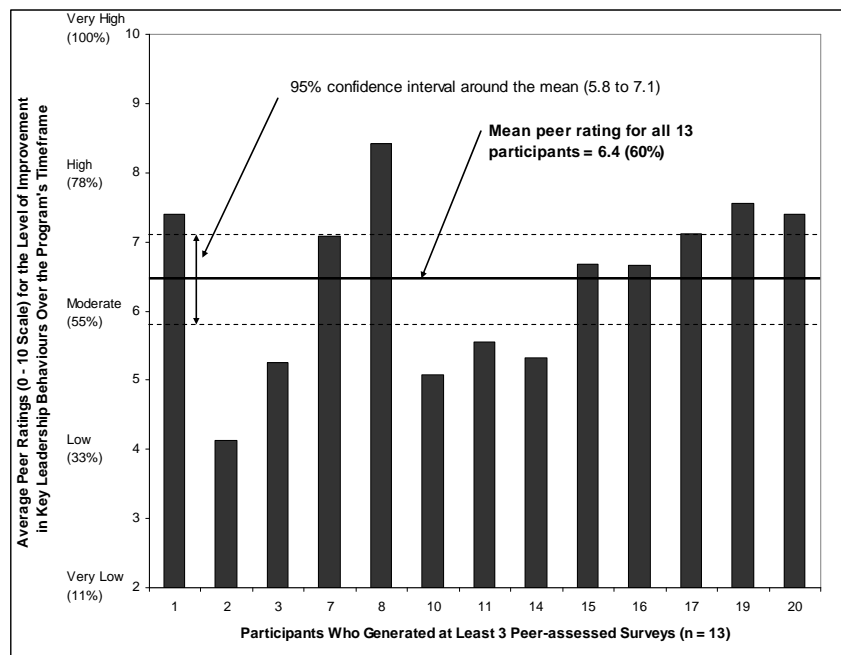


Figure 4 – Level of improvement in key leadership behaviours (peer assessment)

Estimated return on investment after one year

Figure 5 shows the *estimated* ROI for the 11 participants who provided supervisor-reviewed data on the costs and benefits associated with their involvement with the program. It also presents the average ROI for the program (i.e. 190%). This figure displays the substantial variation in the estimated ROIs for each participant. For example, two of the 11 participants (18%) generated weakly negative ROI estimates (i.e. -11% and -14%) in contrast to three participants who generated strongly positive ROI estimates (i.e. 270%, 610% and 880%). Despite this variation, there is 95% confidence that the average estimated ROI after one year is positive for the program. A positive ROI represents a net benefit to a participant’s organisation.

The high degree of variability in the estimated ROIs for each participant is consistent with research by Avolio (2007) who found the ROI for developing leaders with ‘high potential’ can be eight times that of people with ‘low potential’. In this context, ‘high potential’ candidates for leadership development would typically have a strong commitment to learning and personal development, a desire to lead, a high need for achievement, persuasive and inspirational communication skills, strategic thinking ability, pragmatism, a high general mental ability, confidence and be self-motivated (Avolio, 2007; Doh, 2002).

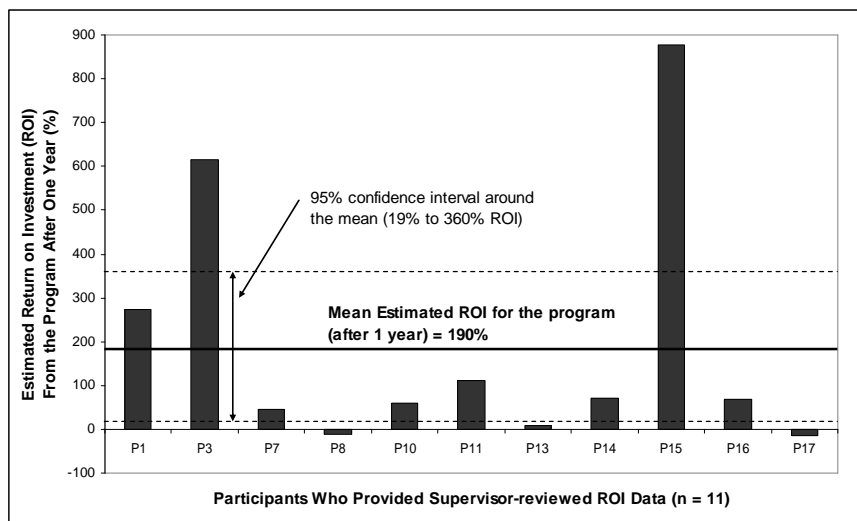


Figure 5 – Estimated ROI for participants and the program’s average ROI

Conclusions

This paper provides evidence that best practice, six-month, evidence-based, theoretically-grounded and ‘feedback-intensive’ LDPs for emerging SUWM leaders can produce a raft of positive outcomes and are likely to produce a net benefit to water agencies in less than a year. Specifically, the evaluation data indicate that such programs are likely to: produce at least a “moderate” (around 50% on relevant scales) overall impact on the leadership ability of participants; be associated with at least a “moderate” (around 60% on relevant scales) level of improvement in key leadership behaviours; and produce an average ROI after one year of between 19% and 360% (i.e. have a net benefit) 95% of the time. In addition, the evaluation process identified opportunities to improve future programs to boost their impact and therefore the magnitude of their ROI.

There were some limitations to the research. For example, there was no objective measure for the business impact of the program, and it was not practical to establish a control group. Strategies to minimise the impact of these unavoidable limitations included the use of seven tiers of evaluation (i.e. source and methodological triangulation), peer review processes to increase the validity of self-assessed data, qualitative and quantitative data, and a highly conservative methodology to estimate the ROI. Another unavoidable limitation that related to the average estimated ROI (see Figure 5) was the potential for ‘survivorship bias’. Specifically, it was possible that the 11 participants who voluntarily provided the supervisor-reviewed, cost-benefit data benefited more from the program than the other nine participants. This potential source of bias highlights the need for such a conservative approach when estimating the average ROI.

Research implications include the need to further investigate opportunities to improve the impact of such programs, especially with respect to selecting participants with the most potential to produce a strongly positive ROI. Research in this area is continuing as part of the research project. Practical implications include the opportunity to roll-out improved versions of such programs around Australia to assist emerging SUWM leaders in water agencies to facilitate change. Delivery mechanisms will, however, need to recognise that the initial cost of such programs (approximately \$2,900 per participant) is currently perceived in some water agencies as being a major impediment to participation, even though the data suggest that 95% of the time the payback period for this investment will be less than a year.

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