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Evaluating the Performance Improvement Preferences of Disability Service Managers: An Exploratory Study Using Gilbert's Behavior Engineering Model

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Background Front-line managers play an important role in managing the performance of staff working in services for people with intellectual disability, but little is known about the practices they prefer to use to improve staff performance and whether these align with what research has shown to be effective.
Method This study comprised two phases. First, the present authors tested the validity and reliability of a short questionnaire designed to evaluate managers' preferences for performance improvement practices. Then, the present authors collected and analysed responses from 175 managers working in disability services in Queensland, Australia.
Results The questionnaire demonstrated good content validity, concurrent validity and test–retest reliability. The participants believed strategies related to changing employee individual characteristics to be more effective than strategies aimed at improving environmental factors.
Conclusions This study provides important considerations regarding the professional development needs of front-line managers working in organizations that provide services to people with intellectual disability.

Keywords: developmental disability, intellectual disability, performance improvement, staff management, staff performance

Introduction

An important goal of any organization is to optimize employee performance. Organizations depend on their employees to achieve the goals and outcomes set for the organization, and poor employee performance can have a significant negative impact on the organization, its clients and other employees. Even when performance is adequate, there may be opportunities to improve it. By focusing on developing more effective employee performance, organizations increase opportunities for the organization, as well as its employees, to be successful.

Front-line managers (FLM), the lowest level of management, are in a unique position to improve worker performance through their influence on employee attitudes and behaviour (Boxall & Purcell 2011). Because FLMs are closest to where the operational work occurs, they have the best vantage point for identifying and addressing performance gaps (Chevalier 2014). At the same time, FLMs are responsible for setting the tone of what is expected in an organization (Beattie *et al.* 2014), and creating positive work environments that support and reward workers for high performance (Härtel & Fujimoto 2015). These expectations reflect a central role for FLMs in optimizing employee performance.

Research examining the role of FLMs has identified a trend towards devolving human resource management responsibilities to those in this role (Evans 2015). Increasingly, FLMs are taking on a range of responsibilities that were previously performed by human resource managers, including the task of monitoring and improving the performance of employees (de Jong *et al.* 1999; Khilji & Wang 2006;

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Panaccio & Vandenberghe 2011). It is expected that this devolution of human resource management responsibilities will enhance the responsiveness and performance of teams and workers (e.g. Ryu & Kim 2013; Townsend *et al.* 2015); however, several factors limit FLMs' effectiveness in this area. In particular, FLMs are faced with conflicting demands, heavy workloads and differing expectations about their role (de Jong *et al.* 1999). Perhaps, the most significant barrier is a lack of skills, knowledge and experience in diagnosing and addressing worker performance problems (de Jong *et al.* 1999; Beattie *et al.* 2014). If FLMs do not possess knowledge about the factors that impact on work performance, they may prematurely select performance improvement strategies based on past experience or the experience of other colleagues, rather than a considered analysis of the root causes of performance problems (Austin *et al.* 2001; Russell 2010; Chevalier 2014)

FLMs working in services for people with intellectual disability are presented with particular challenges in leveraging worker performance to improve outcomes. Clients of these services are some of the most disadvantaged people in society (Australian Government Department of Social Services, 2013), and often have an array of complex support needs, including those related to health care (e.g. Balogh *et al.* 2005; Perez *et al.* 2015), behaviour (Emerson & Einfeld 2011) and communication (e.g. Cook & Dixon 2006; Griffiths & Smith 2015). Moreover, FLMs in disability services typically obtain their positions with minimal supervisory training, and essentially no training in systematic, research-based performance improvement practices (Reid *et al.* 2005; Reid & Fitch 2011). FLMs who do not have a working understanding of the factors that influence worker performance are poorly prepared to diagnose and remedy poor staff practices that impact on client outcomes.

A range of models have been developed for identifying and addressing the contributors of problems in worker performance. However, only one such model has been endorsed by the International Society for Performance Improvement, the leading professional association for human performance technologists (Van Tiem *et al.* 2004). This model was developed by Thomas Gilbert (1978) and is known as the behavior Engineering Model (BEM; see Table 1).

Gilbert's BEM focuses exclusively on human competence and behaviour, and includes six hierarchical cells, containing variables that impact performance in the workplace. The structure of the BEM is derived from Skinner's (1953) operant behaviour theory, which identifies that behaviour has two aspects, the individual's behavioural repertoire and the environmental conditions under which the behaviour occurs (Binder 1995). In addition, the BEM is firmly rooted in general systems theory (von Bertalanffy 1950), which identifies employees as an important part of the organizational system whose performance is affected by environmental and cultural factors within the system, as well as the individual characteristics they bring to their job.

The strength of Gilbert's (1978) BEM is that it provides a comprehensive performance framework for identifying the underlying causes of workplace performance issues, and examines both the environmental and individual influences that have an impact on performance in the workplace (Dean & Ripley 1997). The first three variables, data, instruments and incentives (arranged by strength of influence), are concerned with environmental supports within the workplace. Data provide timely feedback to staff on how they are doing their jobs. Instruments include the tools and resources employees require to perform work tasks to the best of their ability. Appropriate incentives and consequences are important for encouraging and maintaining high levels of performance. Gilbert (1978) asserted that when these environmental support factors are provided by the organization, employees are empowered to perform at exemplary levels. The last three variables, knowledge, capacity and motives, are concerned with the characteristics of employees. Gilbert (1978) contended that, generally, performance improvement could be achieved more readily (Gilbert used the term *leverage)* by making adaptations to the environment in which an individual works (the first three variables) than by focusing on the individual's personal characteristics (the last three variables). A range of studies conducted in relevant human service settings have shown that adaptations to the work environment are successful (e.g. Page *et al.* 1982; Gilligan *et al.* 2007; van Vonderen *et al.* 2010a,b). However, none of these studies compared the effectiveness of different performance improvement approaches. Only one study (Wooderson *et al.* 2014) has tested Gilbert's (1978) contention by directly comparing the effectiveness of these two approaches. Wooderson *et al.* (2014) analysed 77 performance improvement interventions conducted in services for people with intellectual disability and found that interventions which sought to address problems in the work environment were more effective than interventions which focused solely on changing the individual characteristics of staff.

Table 1 The Behavior Engineering Model

Environmental conditions	Data **1.** Relevant and frequent feedback about the adequacy of performance **2.** Descriptions of what is expected of performance **3.** Clear and relevant guides to adequate performance	Instruments **1.** Tools and materials of work designed scientifically to match human factors	Incentives **1.** Adequate financial incentives made contingent upon performance **2.** Non-monetary incentives made available **3.** Career development opportunities
Individual employee characteristics	Knowledge **1.** Training that matches the requirements of exemplary performance **2.** Placement	Capacity **1.** Flexible scheduling of performance to match peak capacity **2.** Mechanical assistance with task **3.** Physical shaping **4.** Adaptation **5.** Selection	Motives **1.** Assessment of people's motives to work **2.** Recruitment of people to match the realities of the situation

Adapted from Gilbert 1978, p. 88.

Despite the complex nature of disability services and concerns that FLMs in disability services are not provided with the necessary training and professional development to optimize workplace performance, there is a paucity of research examining FLMs' actual understanding of performance improvement (Wooderson *et al.* 2014). The present authors could not identify any literature examining the performance improvement practices of managers in disability services. Consequently, little is known about the types of strategies that managers are likely to employ when managing employee performance, and whether those preferences align with the research in this area. Accordingly, this study investigates whether FLMs working in disability service organizations believe that the most efficacious approach to improving staff performance is to address environmental factors (as demonstrated by the evidence and in line with Gilbert's (1978) model) or if changing employee characteristics is believed to be a more useful approach. To evaluate this research question, the present authors required an instrument capable of comparing FLMs' perceptions of the efficacy of the six BEM variables. The present authors were able to identify only one such instrument in the literature – Cox *et al.* (2006) Achieving Productive Performance questionnaire (APP). The APP comprises 66 paired comparisons of 12 items related to the six BEM variables. Respondents indicate their preference for one item over another using a six-point forced-choice Likert-type scale format anchored by one (first strategy has a significant edge over the second strategy) and six (the second strategy has a significant edge over the first strategy). A total score for each of the 12 items is calculated based on the preferences recorded by the respondent over the 66 paired comparisons.

Cox *et al.* (2006) assessed the face validity and readability of the APP through focus-group discussions. To test the ability of the instrument to differentiate the six components of the Gilbert model, item correlations were calculated and compared. The average correlation of items measuring each component ($r = 0.40$) was shown to be higher than the average correlation of each item with the items measuring other components of the model ($r = 0.07$) (Cox *et al.* 2006). Cox and colleagues did not conduct traditional tests of internal consistency because 'high inter item correlations would have weakened the instrument since the present authors were interested in differentiating the six elements of the Gilbert model' (Cox *et al.* 2006, p. 30).

A substantial issue associated with the APP is the number of questions that respondents are required to complete and the repetitiveness of those questions. Studies examining questionnaire design characteristics suggest that a long questionnaire will obtain a lower response rate than a short one; and recommendations regarding optimal length range between 15 and 30 questions, or 13 min or less for completion time (Kalantar & Talley 1999; Ganassali 2008; Fan & Yan 2010). Because the length of the APP might discourage FLMs from participating, the present authors developed our own, shorter questionnaire based on Gilbert's BEM and evaluated its reliability and validity.

Performance Improvement Preferences questionnaire

The structure and format of our questionnaire, the Performance Improvement Preferences questionnaire (PIP, see Appendix 1), was derived from the six variables of Gilbert's BEM, and the APP. The primary difference between the PIP and APP is length. It was expected that the PIP, which comprises 15 paired comparisons of the six BEM variables, would be considerably less time-consuming to complete than the APP's 66 questions but have sufficient psychometric quality to be a useful measure of respondents' preferences.

Method

Participants

In total, 202 individuals, working in services for people with intellectual disability in Queensland, Australia, volunteered to participate in this study. The present authors were not able to determine the size of the population of FLMs working in services for people with intellectual disability in Queensland, so it is not possible to report what proportion of the population this sample represents. Prior to recruiting participants, ethical clearance was obtained from the University of Queensland (clearance number 12-057) and gatekeeper approval was provided by participating organizations.

During the first phase of the study, three female participants known to the first author were invited to provide feedback on a draft version of the questionnaire and evaluate its content validity. These three expert managers had 12.3 years of experience as a manager in services for people with intellectual disability, had worked an average of 19.7 years in the field and had an average age of 50.3 years. In addition, 32 disability service FLMs participated in a test of the questionnaire's construct validity and test–retest reliability. These participants were recruited using a convenience sample combined with a snowballing strategy, in which invited participants were asked to forward the invitation to other managers working in services for people with intellectual disability. The individuals in this group were substantially younger (mean = 37.2 years), on average, than the expert group. They had an average 14.6 years working experience in disability services and 7.4 years management experience. Six (18.8%) participants were male, and 26 (81.2%) were female. Twenty-eight (87.5%) had completed tertiary qualifications.

The second phase of the study involved 199 FLMs working in services for people with intellectual disability. This included the 32 FLMs who participated in the first phase of the study and 167 respondents who volunteered to participate in this second phase only. One hundred and seventy-five of the participants completed all sections of the PIP, while 24 provided only partial responses. Because the PIP is comprised of 15 paired comparisons of the six BEM items, it is not possible to evaluate partially completed questionnaires which lack responses to one or more of these questions. Consequently, the 24 partially completed questionnaires were excluded from the analysis. The majority of the 175 participants who provided fully completed questionnaires were female (n = 138, 78.9%) and were aged between 35 and 54 years (n = 77, 44.0%). At the time of the study, the participants had been working in disability services for an average of 12.8 years. One hundred and sixty participants (91.4%) reported having completed at least one tertiary qualification.

Procedures

Phase I

Content validity

Content validity of the PIP was assessed by the three managers in the expert group. The managers were emailed the PIP with a score sheet and asked to score, on a scale of 1 to 10, the relevance (1 = irrelevant, 10 = relevant), importance (1 = not important, 10 = very important) and readability (1 = difficult to read, 10 = easy to read) of each of the six BEM items as they apply within the context of disability services. In addition, the three experts were asked to assess the overall difficulty (1 = very difficult, 10 = not difficult at all) and length of the questionnaire (1 = very long, 10 = very short).

Concurrent validity

Concurrent validity is a form of criterion-related validity and is concerned with the extent to which individual's scores on a new measure relate to scores on a criterion measure (Mislevy & Rupp 2010). To test the concurrent validity of the PIP, the convenience sample of disability service managers was asked to complete both the PIP and the APP. Individual respondent's item scores were compared between the PIP and the APP. First, the

present authors computed mean scores for each of the 12 items in the APP, following the procedure outlined by Cox *et al.* (2006). Item scores were summed based on their position in the BEM, resulting in six scores for each set of responses. Then, each individual's mean score on the APP was ranked and compared with their ranked mean scores on the PIP, using Spearman's rank correlation coefficient.

Test–retest reliability

Test–retest reliability was assessed by having the 32 participants complete the PIP again, following a test–retest procedure. The test–retest reliability procedure involves administering a questionnaire to the same participants twice and measuring the stability of the participants' scores (Creswell 2012). A potential confounding variable when using the test–retest procedure is the length of time between the first and second administrations. If the interval between the two administrations is too short, the results from the first may influence participants' responses on the second. On the other hand, if the time interval between the first and second administrations is too long, participants may have changed in some way that influences the results of the second administration (Creswell 2012). For example, waiting six months to administer a mathematics test to 8-year-olds may be too long, as the students' mathematical knowledge is likely to have changed in that time (Siegle 2002). Gatewood *et al.* (2011) suggested an interval somewhere between several weeks to several months be used with test–retest administrations. For this study, the participants in the pilot group were asked to complete the short questionnaire at two different times, one month apart. Mean scores were then computed for each of the six BEM items in the PIP. The six mean scores were ranked and analysed using Spearman's rank correlation coefficient. In addition to completing the PIP twice, participants in the sample group were asked to provide demographic information including, age, gender, years of employment within the disability sector, years in their current position and education.

Phase II

Mean scores were computed for each of the six BEM items as reported by the 175 front-line managers who completed the PIP. To answer the research question regarding which of the six BEM variables respondents consider more likely to contribute to productive performance, scores were averaged and tabulated for each variable. The BEM variables were then ranked, highest to lowest based on their respective mean scores. The aggregate mean score for the three environmental factors were then compared with the aggregate mean score for the three individual factors to evaluate whether respondents identified either environmental factors or worker characteristics as providing greatest leverage. In addition, associations with demographic variables were examined to ascertain whether these personal characteristics influenced responses to the questionnaire. One association the present authors sought to examine was whether FLMs who had previously participated in tertiary management education were more likely to support the position that environmental factors have a greater influence over work performance than individual characteristics.

Results

Phase I

Content validity

All six BEM items in the PIP scored highly for relevance, importance and readability with mean scores above 8.3 for each item. Overall means for relevance, importance and readability were 9.0 (SD = 0.97), 9.0 (SD = 1.02) and 9.7 (SD = 0.97), respectively. Means for difficulty and length were 9.0 (SD = 1.73) and 7.3 (SD = 2.52).

Concurrent validity and test–retest reliability

Spearman's correlation coefficients were calculated based on the 32 participants' responses to the PIP and APP questionnaires. The items in the two questionnaires were strongly correlated, average $r_s = 0.70$, $P < 0.001$. Participants' responses to the PIP also demonstrated good test–retest reliability; responses at Time 1 and Time 2 were highly correlated (Table 2), average $r_s = 0.80$, $P < 0.001$.

Phase II

Mean item scores and main research question

Mean scores for each of the six BEM items in the PIP are shown in Table 3. The three highest scoring items were those related to the individual characteristics of employees.

Table 2 Spearman's correlation coefficient for the Performance Improvement Preferences (PIP) at Time 1 and Time 2 (n = 32)

Item	*rho*
1. Provide clear performance expectations and regular feedback (Data)	0.77*
2. Provide adequate tools and sufficient resources (Instruments)	0.80*
3. Provide appropriate consequences and incentives (Incentives)	0.70*
4. Improve staff skills and knowledge (Knowledge)	0.90*
5. Select and assign staff with the right personal qualities (Capacity)	0.72*
6. Employ motivated staff (Motives)	0.89*

*$P < 0.001$ (one-tailed)

Table 3 Mean scores for the six Engineering Model (BEM) items (n = 175)

Item	*Mean (SD)*
1. Provide clear performance expectations and regular feedback (Data)[1]	2.8 (2.6)
2. Provide adequate tools and sufficient resources (Instruments)[1]	2.5 (2.0)
3. Provide appropriate consequences and incentives (Incentives)[1]	1.2 (1.5)
4 Improve staff skills and knowledge (Knowledge)[2]	3.8 (1.7)
5. Select and assign staff with the right personal qualities (Capacity)[2]	3.2 (2.3)
6. Employ motivated staff (Motives)[2]	4.0 (2.6)

[1]Item related to environmental factors.
[2]Item related to individual characteristics.

To address the question of which type of strategy was judged to be the most useful in producing effective change in employees, a Kolmogorov–Smirnov test was conducted to compare the aggregate mean scores for the three individual factors with the aggregate mean scores for the three environmental factors. Respondents believed strategies related to changing employees individual characteristics (M = 11.0, SD = 4.8) to be more effective than strategies aimed at improving environmental factors (M = 6.5, SD = 5.1). The results were significant at the 0.001 level.

Demographic variables

A Kruskal–Wallis test was conducted to identify any associations between demographic variables and respondents' aggregate scores for the three environmental factors. The present authors did this to understand whether participants' personal characteristics (age, gender, experience and training) had an influence on their responses to the questionnaire. No significant associations were identified. Interestingly, 63 (36%) of the participants reported having completed tertiary education in management (diploma or higher); however, aggregate mean scores for the BEM items related to environmental factors for these participants (M = 5.5, SD = 2.0) were slightly lower than those of participants who reported not having completed management training (M = 7.2, SD = 6.1, P = .61).

Discussion

This study aimed to examine the performance improvement preferences of FLMs working in organizations that provide services to people with intellectual disability. The present authors developed a reliable, short instrument (PIP, see Appendix 1) for this purpose. The PIP provides organizations and other researchers with an efficient tool for investigating how FLMs working in disability service organizations prioritize factors related to good performance. Ultimately, the success of efforts to improve staff performance lies in the hands of FLMs, who must first be made aware of and convinced of the benefits of evidence-based practices before they can implement them (Rousseau 2006).

The finding that FLMs from the sample population identified individual employee characteristics as having a greater influence on work performance than environmental factors is of concern. Performance improvement is achieved more effectively by making adaptations to the environment in which an individual works than by focusing on changing the individual's personal characteristics (Wooderson *et al.* 2014). Gilbert (1978) placed particular importance on clearly defined goals and regular performance feedback to staff, and believed that performance improvement interventions which fail to address poor or inadequate environmental supports are likely to be ineffective and may have a detrimental effect on employee performance.

Why is it, then, that participants rated individual variables as having the greatest impact on employee performance? There are three likely reasons for this. First, FLMs attribute deficient staff performance to poor motives or insufficient capacity. The three 'individual' items related to staff motives and capacity – 'employ

motivated staff', 'improve staff skills and knowledge', and 'select and assign staff with the right personal qualities' were rated as the most effective strategies (in that order). FLMs may favour these strategies because they believe that having the 'right' staff in place is more effective and less time-consuming than having to performance manage staff who 'don't care' or 'can't do the job'. Gilbert (1978) stated that this is a common misconception. Poor performance is often attributed to lack of motivation or capacity. In fact, most people have the required capacity and want to do a good job. It is more often the case that, staff are not provided sufficient and reliable information to tell them how they should perform and how well they are performing (Gilbert 1978). Second, FLMs are not exposed to evidence-based management practices (Reid *et al*. 2005; Reid & Fitch 2011). Often, FLMs are promoted to supervisory roles from direct support positions, without prior experience or training in research-based performance improvement strategies. Finally, FLMs may lack the necessary support and authority to make environmental changes in the workplace. FLMs' own performance is affected by the environment and culture in which they work (von Bertalanffy 1950). This might explain why participants who reported having completed tertiary qualifications in management were also likely to prefer individual variables. The other possibility arising from this finding is that tertiary management education programmes do not provide FLMs with sufficient knowledge and tools to develop into proficient performance managers. Further research is required to identify the factors that influence FLMs preferences for performance improvement strategies. Prior to presenting our recommendations, the present authors would like to point out that it was not possible to determine the representativeness of the sample population of FLMs who participated. This limits the generalizability of the findings. An additional limitation is the reliance on self-report data alone. Future research should examine FLMs' actual practices, as well as their preferences, by employing more direct observational methods in addition to the self-report methods employed in this study.

Conclusion and recommendations

Front-line managers play an increasingly important role in managing the work performance of employees. An important first step in increasing the effectiveness of performance improvement efforts within disability services is to ensure that FLMs are aware of and are supported to implement research-based approaches. The PIP questionnaire can assist organizations to identify FLMs who may not be aware of these approaches and might benefit from professional development in this area. FLMs who are supported to develop a comprehensive understanding of performance improvement practices will be better able to identify the root causes of poor performance, and in turn will be more likely to design and implement effective performance improvement solutions.

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Appendix I

Performance Improvement Preference (PIP) questionnaire

The purpose of this questionnaire is to evaluate your preferences between varieties of strategies for improving the work performance of staff.

You will be presented with 15 questions. Each question compares two performance improvement strategies. For each question, select from the two available options the management strategy you think is more likely to improve the work performance of staff. Then, rate the extent to which that strategy is more effective than the other.

In the example below, the respondent has indicated that Strategy A is much more effective than Strategy B.

Management Strategy A	**Management Strategy B**
Provide a comfortable and reliable work vehicle	Praise staff
Choose the most effective strategy (please check one box)	
Management Strategy A ☒	**Management Strategy B** ☐
Rate how much more effective (please check one box)	
1 ☐ only a little bit more effective	2 ☐ 3 ☒ much more effective

1. Management Strategy A	**Management Strategy B**
Provide clear performance expectations and regular feedback	Provide adequate tools and sufficient resources
Choose the most effective strategy (please check one box)	
Management Strategy A ☐	**Management Strategy B** ☐
Rate how much more effective (please check one box)	
1 ☐ only a little bit more effective	2 ☐ 3 ☐ much more effective

2. Management Strategy A	**Management Strategy B**
Provide clear performance expectations and regular feedback	Provide appropriate consequences and incentives
Choose the most effective strategy (please check one box)	
Management Strategy A ☐	**Management Strategy B** ☐
Rate how much more effective (please check one box)	
1 ☐ only a little bit more effective	2 ☐ 3 ☐ much more effective

3. Management Strategy A	**Management Strategy B**
Provide clear performance expectations and regular feedback	Improve staff skills and knowledge
Choose the most effective strategy (please check one box)	
Management Strategy A ☐	**Management Strategy B** ☐
Rate how much more effective (please check one box)	
1 ☐ only a little bit more effective	2 ☐ 3 ☐ much more effective

4. Management Strategy A	**Management Strategy B**
Provide clear performance expectations and regular feedback	Select and assign staff with the right personal qualities
Choose the most effective strategy (please check one box)	
Management Strategy A ☐	**Management Strategy B** ☐
Rate how much more effective (please check one box)	
1 ☐ only a little bit more effective	2 ☐ 3 ☐ much more effective

5. Management Strategy A Provide clear performance expectations and regular feedback	**Management Strategy B** Employ motivated staff
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

6. Management Strategy A Provide adequate tools and sufficient resources	**Management Strategy B** Provide appropriate consequences and incentives
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

7. Management Strategy A Provide adequate tools and sufficient resources	**Management Strategy B** Improve staff skills and knowledge
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

8. Management Strategy A Provide adequate tools and sufficient resources	**Management Strategy B** Select and assign staff with the right personal qualities
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

9. Management Strategy A Provide adequate tools and sufficient resources	**Management Strategy B** Employ motivated staff
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

10. Management Strategy A Provide appropriate consequences and incentives	**Management Strategy B** Improve staff skills and knowledge
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ 2 ☐ 3 ☐ only a little bit more effective … much more effective	

11. **Management Strategy A** Provide appropriate consequences and incentives	**Management Strategy B** Select and assign staff with the right personal qualities
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ only a little bit more effective 2 ☐ 3 ☐ much more effective	

12. **Management Strategy A** Provide appropriate consequences and incentives	**Management Strategy B** Employ motivated staff
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ only a little bit more effective 2 ☐ 3 ☐ much more effective	

13. **Management Strategy A** Improve staff skills and knowledge	**Management Strategy B** Select and assign staff with the right personal qualities
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ only a little bit more effective 2 ☐ 3 ☐ much more effective	

14. **Management Strategy A** Improve staff skills and knowledge	**Management Strategy B** Employ motivated staff
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ only a little bit more effective 2 ☐ 3 ☐ much more effective	

15. **Management Strategy A** Select and assign staff with the right personal qualities	**Management Strategy B** Employ motivated staff
Choose the most effective strategy (please check one box) **Management Strategy A** ☐ **Management Strategy B** ☐	
Rate how much more effective (please check one box) 1 ☐ only a little bit more effective 2 ☐ 3 ☐ much more effective	

