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Leach, D.J., Stride, C.B. orcid.org/0000-0001-9960-2869 and Wood, S.J. (2006) The effectiveness of idea capture schemes. *International Journal of Innovation Management*, 10 (3). pp. 325-350. ISSN 1363-9196

<https://doi.org/10.1142/S1363919606001521>

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1 International Journal of Innovation Management
Vol. 10, No. 3 (Sept. 2006) pp. 1–26
3 © Imperial College Press



Imperial College Press
www.icpress.co.uk

THE EFFECTIVENESS OF IDEA CAPTURE SCHEMES

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11 Received 2 August 2004

Revised 16 December 2005

Accepted 16 December 2005

13 Innovation at work is mainly driven by employees' ideas. This paper reports a study of
the effectiveness (e.g., rate of suggestion making) of schemes for capturing these ideas.
15 Based on a survey of 182 UK organizations, the study shows that decentralized suggestion
schemes and work-based systems are more effective than centralized and informal schemes.
17 The extent of planning, publicity, feedback and management support given to the scheme,
and the type of rewards offered to employees, also independently account for variation in
19 effectiveness. Publicity and non-monetary rewards, though, are found to be most decisive,
regardless of scheme type. Learning culture also affects the rate of suggestion making,
21 though the effect is greater for centralized and decentralized schemes than for the others.
The key implication of the findings is that by paying particular attention to how they are
23 advertised and how participation is rewarded, organizations could improve the return on
their idea capture schemes.

25 *Keywords:* Idea capture schemes; suggestion schemes; quality circles; effectiveness.

Introduction

27 In recent years, the publicity given to the importance of innovation to organizational
success has rejuvenated an interest in Idea Capture Schemes. Suggestion schemes,
29 quality circles and other such schemes are, in the terminology of van Dijk and
van den Ende (2002, p. 389), methods for "extracting" and "landing" employees'
31 ideas. Extracting concerns the generation and sharing of employees' ideas, while
the landing process refers to the capture and evaluation of those ideas ("set down"
33 in van Dijk and van den Ende terms). The key assumption behind the use of idea
capture schemes is that there is a reservoir of ideas in organizations that may remain

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1 dormant in the absence of such schemes, and that drawing them out will enable the
organization to harness the otherwise latent talents of their employees.

3 If acted on, these ideas should be manifest in their effects on overall levels of
innovation and in turn key indicators of organizational performance, such as costs,
5 productivity and profits. There is some, albeit limited, evidence to support this.
A survey of 513 UK organizations found that those with more successful major
7 innovations also reported higher levels of idea capturing from non-management
employees (Leach *et al.*, 2001). Furthermore, a survey of suggestion schemes (IRS
9 Employment Review, 1996), involving 40 UK organizations, revealed that yearly
savings from employees' ideas ranged from £10,000 to £1.9m (average £63,000).
11 Consistent with this, a more recent survey of 62 UK organizations revealed signifi-
cant savings, amounting to some £153m in one year (ideas UK, 2001). In a similar
13 vein, Frese *et al.* (1999) estimated that the savings (for 1996) from a suggestion
scheme in a Dutch steel company were approximately 1.5m guilders (\$750,000).
15 de Menezes and Wood's (2006) analysis of Britain's Workplace Employee Rela-
tions Survey of 1998 has also shown that idea capture schemes, like quality circles,
17 are now an integral part of a high involvement management that can successfully
combine quality and productivity.

19 Surveys of managerial practice (Cully *et al.*, 2000; Osterman, 1994, 2000), how-
ever, have shown that idea capture schemes are far from ubiquitous, and that where
21 they exist employee participation may not be that high (IRS Employment Review,
1996). This low participation may well underpin the oft-heard view amongst man-
agers that employees do not appreciate idea capture schemes and any effect that
23 they may have is short-lived. This in turn partly explains the low use of schemes
25 (Klotz, 1988, pp. 347–348).

27 Social scientists have to a large extent mirrored this lack of appetite for idea
capturing, as it is a neglected topic of research. In particular, there has as yet been
29 no attempt to investigate the effectiveness of schemes to find out whether certain
types of schemes are more likely to lead to suggestion making and to result in
31 ideas that are implemented. Nor has there been any reported systematic attempt
to compare the contribution of different design features to scheme effectiveness,
such as the frequency of feedback given to employees on suggestions or the extent
33 of publicity given to the scheme. Ekvall's (1976) study of engineering in Sweden,
though, suggested that having unbiased methods of evaluation, a specialist per-
35 son responsible for the suggestion scheme, and reasonable rewards for suggestions
does stimulate suggestion making. The few studies that have examined the effects
37 of schemes are narrow in scope, as they have either concentrated on one method
of idea capturing (Ekvall, 1976; Hill, 1991; Rapp and Eklund, 2002) or not distin-
39 guished between types of idea capture schemes (Leach *et al.*, 2001). Other studies
have either assessed idea capture schemes as part of a gainsharing (Scanlon-plan)

1 package (Arthur and Aiman-Smith, 2001; Schuster, 1984) or incorporated them into
2 a “bundle” of managerial practices (MacDuffie, 1995; Wood and Albanese, 1995;
3 Wood and de Menezes, 1998), without any examination of their individual effects.
4 There has also been insufficient attention to the role of employee development and
5 training specifically for innovation, or what is often referred to as a learning culture,
6 in enhancing the effects of idea capture schemes.

7 In this paper, we assess the effectiveness of different types of schemes, focusing
8 on the number of ideas generated and implemented. The main aims of the study are
9 to examine:

- 11 1. whether idea capture schemes vary in terms of effectiveness (e.g., the extent to
which formal methods of idea capturing are more effective than informal ones);
- 13 2. whether design features enhance effectiveness;
- 15 3. whether scheme types and design features are independently related to effectiveness;
and
- 17 4. whether the impact of scheme types and the design features on scheme effectiveness
varies with the extent to which the organization has a learning culture.

17 **Conceptual Background and Hypotheses**

19 Drawing upon the notions of Frese *et al.* (1999), Smith (1989) and others, idea
21 capture schemes can be classified into four types: centralized suggestion schemes,
23 namely a single scheme for all employees; decentralized suggestion schemes, that
25 is several independently run schemes within an organization; work-based systems
27 such as quality circles and product development teams and informal schemes. An
29 informal scheme, as we define it, is when there is no established method for capturing
ideas, but there is nonetheless a structured procedure for evaluating ideas. Employees
thus discuss their ideas with a relevant individual (e.g., supervisor, manager)
who then processes them through a formal procedure. Having an informal scheme
thus differs from the situation where the generation and evaluation of ideas is simply
left to normal line management processes, which we would treat as being where no
scheme exists.

31 The four types of schemes differ on a number of dimensions. First, the level of
formality varies across schemes. Suggestion schemes and work systems involve formal
33 methods to collect employees’ ideas, whereas informal methods do not. Second,
some schemes involve group work. The prime example of these is the quality circle,
in which small groups of employees (typically between 8 and 12, Rosen, 1989,
35 p. 183) work together on a given project. In contrast, the emphasis with regard to
suggestion schemes is on individuals generating and recording ideas independently.
37 Third, schemes can be differentiated in terms of focus. The suggestion scheme is

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1 general in scope as employees can typically submit ideas on any issue or aspect of
2 the organization and at any time. Quality circles and product development teams,
3 on the other hand, are likely to be focused on specific topics. The remit of quality
4 circles is typically “to diagnose ‘quality’ problems and propose solutions” (Rosen,
5 1989, p. 183), though they need not be restricted within these parameters.

6 We might expect then the breadth of ideas to be greatest when suggestion schemes
7 are used. But, as Klotz (1988) argues, work-based systems and quality circles might
8 receive the most ideas as “the know-how and experience of the various employees
9 are pooled” (p. 347). We might also argue that they will produce ideas of better
10 quality, and hence more ideas implemented, due to the rejection of ideas with little
11 or no potential. More fundamentally, however, there is an expectation when quality
12 circles and development teams are formed that the group will produce ideas. We,
13 therefore, test the following hypothesis:

14 **Hypothesis 1.** *The four types of idea capture schemes will have a differential
15 impact on effectiveness, with work-based systems (e.g., quality circles, development
teams) being more effective than the other types of idea capture schemes.*

16 From the literature on idea capturing (Holmes, 1952; Klotz, 1988; Smith, 1989; van
17 Dijk and van den Ende, 2002), we have identified a number of dimensions or, what
18 we will call, design features on which schemes may be characterized: planning and
19 employee participation in scheme development; publicity and particularly how fre-
20 quently this is updated; management support; feedback to employees on their ideas;
21 and rewards, specifically the extent, type and mix of reward offered in exchange for
22 ideas (e.g., monetary or recognition or both). We hypothesize that all five design
23 features will be positively associated with the effectiveness of idea capture schemes,
24 and will now discuss each of these in more depth.

Planning

25 Consistent with the introduction of new work practices or equipment, managing
26 scheme implementation is a critical process (Holmes, 1952; Smith, 1989). We
27 hypothesize that planning that involves the participation of both internal and exter-
28 nal agents will have positive effects on scheme effectiveness. Internal discussion
29 that involves employees, or their representatives, who will be affected by the scheme
30 should have a number of benefits. It should help to ensure that the reasons under-
31 pinning scheme implementation are recognized and accepted, to provide an oppor-
32 tunity for employees to comment on the design of the scheme, thereby enhancing
33 employee ownership of it, and to clarify what will be expected of employees once
34 the scheme is implemented. In doing so, it is quite likely that schemes are perceived
35 to be procedurally fair, and that idea capturing is seen as a “fair process” (Kim and
36

1 Mauborgne, 2003, p. 6). External discussion arising, for example, from managers
3 being members of professional bodies or visiting other organizations is also important
as it enables management to learn about good practice in both the design and
maintenance of schemes.

5 **Publicity**

7 Publicity for the scheme is most likely to contribute to effectiveness in several
9 inter-related ways. The minimum that publicity should do is to create an awareness
11 of the scheme. Publicity can serve as both a conduit for reaffirming management
commitment to creativity, suggestion making and innovation and a type of feedback
as it informs individuals of successfully implemented ideas and awards (van Dijk
and van den Ende, 2002). We envisage that publicity will help to create a climate
in which making suggestions is perceived to be welcomed and valued.

13 **Managerial support**

15 Overt management support is widely viewed as an essential requirement to promote
employee creativity, suggestion making and idea implementation (see e.g., Amabile *et al.*, 1996; Axtell *et al.*, 2000; Frese *et al.*, 1999; Smith, 1989; van Dijk and
17 van den Ende, 2002). More specifically, as Smith (1989) observed, "Strong man-
agement support is essential for the healthy growth of a suggestion scheme. Lack
19 of interest by top management filters down through all branches of the organization
and is eventually reflected in a dwindling participation rate and a lowering of the
21 quality of suggestions submitted by employees" (p. 101). In addition, a survey of
57 organizations found that management support is an important determinant of
23 scheme success (White and Jacobs, 1961).

Feedback

25 The role of feedback in enabling individuals and teams to perform effectively has
been widely recognized and promoted (Cherns, 1987; Hackman and Oldham, 1976;
27 Ilgen *et al.*, 1979; Kluger and DeNisi, 1996; Trist and Bamforth, 1951). The findings
of Zhou's (1998) laboratory experiment showed that the most creative ideas were the
29 product of an interaction between positive feedback, an informative style of feedback
and high task autonomy. In an applied setting involving operators of advanced
31 manufacturing technology, the findings of a change study showed that feedback can
increase operators' self-reliance and lead to substantial performance benefits (Leach
33 *et al.*, 2001). With regard to idea capture schemes, providing feedback to employees
on their ideas should demonstrate that the scheme is well run, thus facilitating
35 sustained participation. We therefore propose that feedback will positively affect
scheme effectiveness.

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1 Rewards

The use of rewards has the potential to encourage creative behavior and to increase individuals' willingness to share his/her ideas. Research suggests that employees are more likely to submit ideas on a regular basis if they are intrinsically motivated to do so (Amabile, 1983), but extrinsic rewards are often also seen as an important stimulant to suggestion-making (Frese *et al.*, 1999). Indeed, van Dijk and van den Ende (2002) propose that both non-financial and financial rewards should be used, such as a combination of recognition and monetary awards. They are, though, cautious about a disproportional use of financial rewards as this "runs the risk that employees will not communicate ideas that they believe to have an insignificant impact on the operational costs" (pp. 390–391), as they recommend, "rewards need to be used in such a manner that intrinsic motivation is not undermined by too strong an emphasis on extrinsic motivators" (p. 391). Based on this argument, and our judgement that the size of financial rewards typically are relatively modest, we hypothesize that the use of both non-financial and financial rewards will be more strongly related to scheme effectiveness than when one or other type is used alone.

As discussed, we expect that each design feature will have a strong, positive and independent effect on scheme effectiveness. We therefore test the following hypothesis.

Hypothesis 2. *The positive effects of the different design features on scheme effectiveness will be independent of each other.*

In presenting our hypotheses, we have assumed that types of schemes and design features independently predict effectiveness. Design features are taken to be general and thus we would expect any scheme that included all five features to perform well, regardless of its type. Equally, though, we would expect the differential effects of scheme types on effectiveness to hold regardless of design features; that is, these do not subsume the effect of scheme types. We therefore test the following hypothesis:

Hypothesis 3. *Scheme type and design features will independently predict effectiveness.*

We might, however, expect certain design features (i.e., planning and publicity) to enhance the effects of the others. Planning differs from the other four features since it is concerned with the processes by which the schemes are designed. It involves the selection of the other design features, specifically the determination of initial levels of publicity, feedback and rewards, although these may change over time. We expect that the effects of the other design features on scheme effectiveness will vary with the extent and the thoroughness of management's planning, being most beneficial when levels of planning are high, but weaker when levels are low. Hence

1 we test whether planning moderates the effects of the other features:

3 **Hypothesis 4.** *Design features and planning will interact positively to predict
scheme effectiveness.*

5 Publicity is also a distinctive design feature as it will determine employees' aware-
ness of the scheme, which is the minimum necessary for them to participate, and
7 will also typically contain exhortations to employees to participate in the scheme.
Given this, we propose that low publicity will mean that regardless of the level of
9 the other elements of the design, their effect will be minimal. Only when publicity
is high will they be beneficial. We therefore test:

11 **Hypothesis 5.** *Design features and publicity will interact positively to predict
scheme effectiveness.*

13 Our inquiry thus far has considered scheme effectiveness without reference to the
organizational context. We would, however, particularly expect a learning culture
15 to have a significant impact on the effectiveness of schemes and perhaps also to
enhance the effects of certain design features. Analogous to the term organizational
17 culture (Huczynski and Buchanan, 2001, p. 884), we define a learning culture as
the values, beliefs and practices that shape employees' attitudes towards learning
19 at work. A learning culture should encourage employee creativity and promote a
willingness to share ideas in its own right (cf. van Dijk and van den Ende, 2002,
21 p. 389), but we are particularly interested in whether it enhances the effectiveness
23 of certain types or even all types of schemes. We would particularly expect the
effectiveness of work-based schemes to be enhanced, due to their team-based or
collaborative nature, if they are embedded in a learning culture. We therefore test
the following hypothesis:

25 **Hypothesis 6.** *Type of scheme and learning culture will interact to predict
effectiveness, showing a strong, positive effect for work-based systems.*

27 We might also expect learning culture to enhance the value of the design features,
with the exception of planning. For example, employees are most likely to respond
29 to publicity when learning culture is high, but may well be unresponsive when it
does not exist. Likewise, recognition for ideas is quite likely to be more positively
31 viewed and hence effective when learning is encouraged and valued than when it is
not. The final hypothesis that we test is therefore:

33 **Hypothesis 7.** *Design features and learning culture will interact to predict
effectiveness.*

1

Method

Participants

3 A sample of UK organizations ($N = 182$) took part in the study. The number of
5 employees in the organizations ranged from 3 to 320,000 (mean = 8147, median =
945), and 74% of organizations had more than one site. The smallest organization
had a turnover of £50,000, whereas the largest had a turnover of £5.5 billion.

7 Two methods were used to acquire the sample. First, 190 members of ideas
9 UK were contacted, with just under half (88) responding. A key objective of ideas
11 UK is to provide advice and guidance on the development of suggestion schemes.
Accordingly, 92% of this sub-sample reported that their principal means of idea
13 capture was either a centralized or decentralized suggestion scheme. Second, we
contacted organizations on an ad-hoc basis ($N = 94$). Although centralized schemes
15 were used by 29% of this sub-sample, 53% reported that informal schemes were
the main methods to harness employees' ideas.

17 In terms of experience of running idea capture schemes, 65% of respondents
reported that the scheme in current use was their organization's first. The age of
schemes ranged from 1 month to 50 years (mean = 7.5 years, median = 5 years),
and some 79% of respondents reported that their schemes had been in operation for
19 at least two years.

Procedure

21 The study was conducted over a six-month period (2000–2001). Individuals who
23 were responsible for managing their organization's idea capture scheme (scheme
25 managers) were contacted by phone. The names of these individuals were either
known in advance or were obtained via contact with a manager in the organization,
27 who was typically a personnel or human resource manager. The purpose of the phone
29 contact was to seek participation in the study and to discuss any queries with regard
to involvement and confidentiality. Having agreed to participate, scheme managers
item relevance and clarity.

31 **Measures**

33 Questionnaire items for the measurement of effectiveness and the design features
35 (planning, publicity, managerial support, feedback and rewards) were constructed
specifically for this study. Only the measure of learning culture was not. Three
indicators of effectiveness were used. In addition to the core indices on suggestion
making and idea implementation, an overall measure of scheme success was used.

1 *Scheme success*

3 Three items were used to assess the extent to which a scheme had met its goals,
5 had had an impact on the organization, and whether or not the impact was expected
7 to last (items: “Has your scheme met its primary goals?” “Has your scheme had
9 an impact on your organization?” and “Do you expect the impact of the scheme to
last?”). A five-point response scale was used from “not at all” to “a great deal”. The
internal consistency reliability of the items was high (Cronbach’s alpha = 0.90),
hence the mean score was used as a measure of the perceived success of the scheme,
with a range of possible values from 1 to 5 (mean = 3.04, SD = 1.02). The amount
of missing data on this variable was small (10%).

11 *Rate of suggestion making*

13 The scheme manager was asked to state the number of ideas that his or her organiza-
15 tion’s scheme had generated (mean = 697, median = 110). A suggestion rate
17 was calculated by dividing this by the number of employees covered by the scheme
(mean = 6831, median = 800). The mean and median suggestion rates (number of
suggestions per employee covered) were 1.27 and 0.13, respectively. Non-response
on the number of ideas suggested was high (25%).

Rate of idea implementation

19 The number of ideas implemented (mean = 132, median = 13) was solicited from
the scheme manager, which we assessed relative to the number of ideas generated.
21 The mean and median implementation rates were 0.13 and 0.02, respectively. As
with ideas generated, non-response was high (45%).

23 *Management support*

25 A single item was used to assess support from management, namely “Do man-
agement provide support to all employees as part of the idea capture scheme?”
Responses were recorded on a five-point response scale from “not at all” to “a great
deal”. The response scale was dichotomized, with “quite a lot” or “a great deal” of
support recoded as 1, and “a moderate amount”, “just a little” or “not at all” recoded
as 0. This was done to simplify item interpretation, and to minimize the degrees of
freedom used by this item in analyses. Normally, though, such five-category ordinal
response variables would be coded into four dummy variables (Cohen *et al.*, 2003),
but given the reduced sample available when predicting two of the three effec-
33 tiveness variables, and the very small numbers in the extreme (“not at all” and “a
great deal”) categories, creation of a dichotomous variable was the most appropriate
35 solution. The distribution of each effectiveness variable over the original five-point

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1 response scales was examined prior to dichotomization to check that any significant
5 relationships with effectiveness were not being masked.

3 *Planning*

5 Two items were used to examine the extent of scheme-related planning. The first
7 focused on the amount of internal planning, the specific question being “How much
9 negotiation and discussion was undertaken within your organization in order to
11 implement the system?” The second item assessed the degree of external planning,
13 asking “How much negotiation and discussion was undertaken with an external
15 organization in order to implement the system?” The extent of the second was far
17 lower than, and rarely independent of, that of the first: in all but six companies
external planning only took place “quite a lot” or “a great deal” if internal planning
also occurred at this level. The questionnaire items recorded responses on a five-
point scale from “none at all” to “a great deal”. A single dichotomous variable
was created for use in our analysis, which took the value of 1 if the levels of both
internal and external planning were rated as “quite a lot” or “a great deal”, and 0 if
not. Again the distribution of each effectiveness variable over the original five-point
response scales was examined prior to dichotomization to check that any significant
relationships with effectiveness were not lost.

19 *Publicity*

21 The questionnaire included two items to assess publicity. The first was dichotomous,
23 asking whether any publicity was produced for the scheme, and worded as “How,
if at all, is the system publicized?” Scheme managers who had ticked “Yes” were
25 then asked to indicate how often the publicity material was updated (“How fre-
quently is the publicity updated?”); they could select one of the following options:
27 daily, weekly, monthly, quarterly, yearly and never. These two measures were then
combined, with “no publicity” forming an additional category in the measure of
29 updating. This ordinal variable, after examining its relationship with each effec-
tiveness variable to ensure that no significant relationships were being lost, was
31 dichotomized for analytic purposes. The final measure took the value of 1 if pub-
licity was frequent (i.e., updated daily, weekly or monthly) and 0 if it was updated
less frequently (i.e., quarterly or yearly), never updated or non-existent.

Feedback

33 Since feedback on ideas can originate from a variety of sources, scheme managers
35 were asked to indicate how much each of a number of sources provided feedback on
ideas (“Do each of the following provide feedback on ideas?”): senior management,

1 other management, non-management employees, and designated teams (e.g., teams
3 comprising both management and non-management employees). A fifth item, feed-
5 back given by “others”, was also included to capture any other source of feedback.
7 A five-point response scale — “not at all” to “a great deal” — was used. We first
9 tested to see if feedback from a single source would most affect scheme effective-
11 ness or whether feedback from multiple sources had additional benefits. The results
13 revealed that obtaining feedback from two or more sources had no additional pos-
15 itive effect on scheme effectiveness over that from a single source, nor did it have
negative effects (e.g., through creating mixed messages). Hence a single variable
measuring the receipt of any feedback regardless of source was appropriate. For
parsimony and simplicity of interpretation this was constructed as a dichotomous
variable taking the value of 1 if the level of feedback from at least one of the five
listed sources was rated as “quite a lot” or “a great deal”, and 0 if not. Again, prior
to calculation, the distributions of each effectiveness variable over the five-point
response scales of the original feedback items were examined to check that no
significant information was being lost.

17 *Rewards*

19 Scheme managers were asked to indicate the extent to which three kinds of rewards
21 were awarded for ideas: “recognition (e.g., praise), monetary (cash), and non-
23 monetary (e.g., vouchers, days out)”. A five-point response scale was used running
25 from “not at all” to “a great deal”. Each of these variables was dichotomized, taking
27 a value of 1 if the level of use was rated as “quite a lot” or “a great deal”, and 0
29 if not. The distribution of each effectiveness variable over the original five-point
response scale was again examined prior to dichotomization to check that no sig-
nificant effects were hidden. We then used the three dichotomous variables to both
test the hypotheses that the use of rewards has beneficial outcomes and examine the
relationship between a mix of different types of rewards and effectiveness. A single
variable to test the overall use of rewards was not created, since the use of the three
different types was found to be largely independent of each other.

31 *Learning culture*

33 A six-item scale, based on Shipton *et al.* (2002), was used to assess employee
35 learning and development. The questions concern the extent to which organizations
37 have a formally recognized procedure for employee career development; support
learning that is not work-related (e.g., basic skills, hobbies); support learning that is
work-related but not part of the individual’s current job (e.g., learning about other
parts of the company); a formally recognized mentoring/coaching system; a range
of development opportunities for all employees (rather than only training people

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1 occasionally to meet specific job needs); and policies, strategies or vision statements
2 that in any way refer to the importance of learning or employee development. A
3 five-point response scale, ranging from “not at all” to “a great deal”, was used.
Within our sample the internal consistency reliability (Cronbach’s alpha) was 0.85.

5 **Statistical analyses**

7 Different statistical models were required for each of the three measures of effec-
tiveness. Perceived success, given that this was normally distributed, was predicted
9 using standard multiple regression techniques. For suggestion and implementa-
tion counts a generalized linear modeling approach was required. While taking the
11 natural logarithm of these highly positively skewed measures transformed both to
approximate normal distributions, the responses of interest were the rates as opposed
13 to the raw counts. Hence it was necessary to include a fixed (i.e., coefficient set =
1, not estimated) offset term. In this case the logarithm of the number of employees
covered by the scheme was included in the linear predictor.

15 Company size (the number of employees in 2000) and age of scheme were
controlled for before assessing the effects of interest. In both cases the logarithm of
17 the raw value was used given the positively skewed distribution of the raw values.
When examining the importance of each design feature (to test the unique effects
19 as in Hypothesis 2) we also controlled for type of scheme. Finally, membership
of ideasUK was taken into account. Analyses were conducted with and without a
21 dummy variable that represented membership of this organization. As the pattern of
findings was equivalent, we present the analyses that did not control for membership
23 of ideasUK.

Results

25 **Background**

27 Using our four-fold classification, the sample contained 98 centralized schemes,
16 decentralized schemes, 13 work systems schemes and 50 informal schemes
29 (scheme managers gave these as their organization’s principal form of idea collec-
tion). Table 1 reports the frequencies of the design features. Feedback was the most
31 prevalent within our sample, with 61.1% of cases reporting a high level. At the
other end of the scale, just 12.7% of respondents reported applying a high degree
33 of planning to their schemes. With regard to rewards, the most frequently used is
recognition as 41.3% of the sample report high use. Monetary and non-monetary
35 rewards are highly used by 31.6% and 25.5% of companies, respectively. Just 6.3%
of respondents reported high use of all three reward types. The correlations between
the design features were almost all positive, but were of weak to medium size,

Table 1. Frequencies of, and correlations^a between, the design features.

Design features	Cases reporting high level (%)	1	2	3	4	5	6	7
1. Planning	12.7	1.000						
2. Publicity	24.7	0.314	1.000					
3. Support	25.4	0.209	0.193	1.000				
4. Feedback	61.1	0.242	0.268	0.358	1.000			
5. Rewards — recognition	41.3	0.045	0.076	0.245	0.280	1.000		
6. Rewards — monetary	31.6	0.052	0.118	0.209	0.195	-0.009	1.000	
7. Rewards — non-monetary	25.5	0.169	0.323	0.119	0.278	0.208	0.315	1.000

^aPairwise correlations measured by Kendall's Tau-B statistic, $136 \leq N \leq 174$.

1 ranging from -0.009 between monetary and recognition forms of reward, to 0.36
2 between feedback and support (see Table 1).

3 Table 2 reports the variation in design features by scheme type. Informal schemes
4 were significantly less likely to involve high levels of publicity and the public-
5 ity level for decentralized schemes is below that of the centralized schemes and
6 work systems. Similarly, the use of high levels of monetary or non-monetary
7 rewards is significantly less common when work-based systems and informal meth-
8 ods are used. But none of the other design features — planning, support, feed-
9 back, or recognition — vary significantly between schemes. Formal schemes, for
10 instance, do not incorporate planning or feedback to a greater degree than informal
11 ones.

Hypothesis 1: Scheme type and effectiveness

13 We first tested whether scheme types were differentially related to the three measures
14 of effectiveness — perceived success, suggestion rate and the implementation rate —
15 and specifically whether work-based systems are more effective than the other types
16 of scheme. The results show that the perceived success scores differ to some extent
17 ($F = 2.23$, $p < 0.10$) across the four types of schemes (though not significant
18 at the $p < 0.05$ level, the effect of scheme type accounts for 5% of the variance
19 in perceived success). The estimated marginal mean for each scheme type is given
20 in Table 3 (row 1): work systems do best, followed by centralized and informal
21 schemes. Suggestion rate varies significantly by scheme type ($F = 3.67$, $p < 0.05$)

Table 2. Relationships between design features and scheme type.

Design features	Percentage of cases reporting a high level of respective design characteristic for each scheme type								
	Centralized		Decentralized		Work systems		Informal		χ^2 Statistic ^a
	%	N	%	N	%	N	%	N	
Planning	18.5	92	0.0	15	15.4	13	0.0	36	10.61
Publicity	36.7	98	12.5	16	38.5	13	0.0	43	23.92*
Support	28.4	95	18.8	16	38.5	13	17.8	45	3.38
Feedback	66.0	94	56.3	16	61.5	13	52.3	44	2.53
Rewards — recognition	39.8	93	38.5	13	46.2	13	43.9	41	0.37
Rewards — monetary	51.6	91	35.7	14	0.0	13	7.3	41	32.06*
Rewards — non-monetary	36.5	85	43.8	16	8.3	12	0.0	40	23.74*

^aTest of the null hypothesis that design characteristics and scheme type are independent.
A significant Pearson χ^2 -square statistic indicates that we should reject this.

*Significant at $p < 0.05$ level having corrected for multiple hypothesis testing.

1 with both decentralized and work systems schemes doing better than centralized
 3 and informal schemes. Implementation rate, however, is very similar for all the
 5 scheme types. Estimated marginal suggestion and implementation rates for each
 7 group are given in Table 3 (rows 3 and 5, respectively). Thus Hypothesis 1 is
 partially supported for two out of three outcome measures, the perceived success
 result confirming our hypothesis, while work-based systems outperform all but
 decentralized schemes judged by the rate of suggestions.

Hypotheses 2: Design features and effectiveness

9 We first determine the separate effect of each design feature on effectiveness in
 11 turn (controlling for background factors and scheme type). An examination of these
 13 direct effects enables a comparison with the unique effects of each design feature,
 allowing an understanding of the extent to which features are contributing in similar
 or distinct ways to scheme effectiveness. The estimated marginal means/rates for
 15 the high and low groups for each design feature under each measure of effectiveness
 are given in Table 4 (columns 4 and 5).

Table 3. Effects of scheme type on effectiveness.

Measure of effectiveness	Other variables in the model	Relationship with ICS ^a type	Estimated marginal means of effectiveness for each scheme type			
			Cent	Decent	WS	Inf
Perceived success	Controls ^b only	$N = 146$, $F = 2.23$	3.10	2.92	3.76	2.94
	Controls and design features ^c	$N = 111$, $F = 4.39^*$	3.60	3.46	4.39	3.64
Suggestion rate	Controls only	$N = 125$, $F = 3.67^*$	0.11	0.41	0.29	0.16
	Controls and design features	$N = 97$, $F = 5.93^*$	0.16	0.81	0.53	0.57
Implementation Rate	Controls only	$N = 92$, $F = 0.14$	0.20	0.22	0.16	0.22
	Controls and design features	$N = 75$, $F = 2.29$	0.17	0.37	0.23	0.26

*Statistically significant at $p < 0.05$ level (two-tailed test).

^aICS = idea capture scheme.

^bControl variables used are log age of scheme, log total company employees in 2000; relevant to Hypothesis 1.

^cRelevant to Hypothesis 3.

1 Planning

Planning has a significant positive effect on two of the three measures of effectiveness. Those companies with a high extent of planning reported on average a higher level of perceived success ($F = 17.56$, $p < 0.05$), and a higher suggestion rate ($F = 8.51$, $p < 0.05$), than those with a low extent of planning. Planning, though, is unrelated to the rate of implementation.

7 Publicity

Companies with frequently updated publicity (i.e., daily, weekly or monthly) recorded significantly higher levels of perceived success ($F = 31.24$, $p < 0.05$) than those with less frequently updated (i.e., quarterly, yearly, never) or no publicity material. The number of ideas suggested is also significantly positively related ($F = 21.52$, $p < 0.05$) to the extent of publicizing the scheme.

1 *Management support*

3 Management support for the scheme is strongly related to all three effectiveness measures. Those companies that offered a high level of support had a significantly higher mean success score ($F = 28.64$, $p < 0.05$), and higher rates for suggestion

Table 4. The relationships between design features and effectiveness measures.

Design feature	Measure of effectiveness	Direct effects ^a of design features and estimated (low/high) marginal means/rates			Unique effects ^b of design features
		Effect	Low	High	
Planning	Perceived success	$N = 135$, $F = 17.56^*$	3.07	4.10	$N = 111$, $F = 5.19^*$
	Suggestion rate	$N = 117$, $F = 8.51^*$	0.17	0.60	$N = 97$, $F = 2.75$
	Implementation rate	$N = 88$, $F = 0.15$	0.21	0.23	$N = 75$, $F = 0.18$
Publicity	Perceived success	$N = 140$, $F = 31.24^*$	2.90	3.89	$N = 111$, $F = 9.92^*$
	Suggestion rate	$N = 120$, $F = 21.52^*$	0.14	0.59	$N = 97$, $F = 6.83^*$
	Implementation rate	$N = 90$, $F = 1.32$	0.18	0.22	$N = 75$, $F = 1.17$
Management support	Perceived success	$N = 143$, $F = 28.64^*$	2.93	3.85	$N = 111$, $F = 8.90^*$
	Suggestion rate	$N = 122$, $F = 3.22^*$	0.19	0.32	$N = 97$, $F = 0.32$
	Implementation rate	$N = 90$, $F = 7.53^*$	0.17	0.30	$N = 75$, $F = 3.28^*$
Feedback	Perceived success	$N = 143$, $F = 34.33^*$	2.65	3.57	$N = 111$, $F = 2.52$
	Suggestion rate	$N = 121$, $F = 5.19^*$	0.14	0.28	$N = 97$, $F < 0.01$
	Implementation rate	$N = 89$, $F = 0.10$	0.19	0.20	$N = 75$, $F = 0.16$
Rewards — recognition	Perceived success	$N = 139$, $F = 23.75^*$	2.84	3.61	$N = 111$, $F = 5.15^*$
	Suggestion rate	$N = 118$, $F = 3.82^*$	0.17	0.29	$N = 97$, $F = 1.93$
	Implementation rate	$N = 88$, $F = 0.05$	0.21	0.21	$N = 75$, $F = 1.10$
Rewards — monetary	Perceived success	$N = 138$, $F = 4.08^*$	3.06	3.48	N/A
	Suggestion rate	$N = 116$, $F = 2.29$	0.18	0.29	N/A
	Implementation rate	$N = 86$, $F = 0.98$	0.21	0.16	N/A

Table 4. (*Continued*)

Design feature	Measure of effectiveness	Direct effects ^a of design features and estimated (low/high) marginal means/rates			Unique effects ^b of design features
		Effect	Low	High	
Rewards — non-monetary	Perceived success	$N = 134, F = 31.34^*$	2.95	4.00	$N = 111, F = 17.14^*$
	Suggestion rate	$N = 113, F = 9.26^*$	0.16	0.46	$N = 97, F = 4.54^*$
	Implementation rate	$N = 84, F = 0.06$	0.21	0.22	$N = 75, F = 0.23$

*Statistically significant at $p < 0.05$ level (one-tailed test).

^aControl variables used are log age of scheme, log total company employees in 2000 and type of scheme.

^bControlled for log age of scheme, log total company employees in 2000, type of scheme and the effects of all other design features; Hypothesis 2.

1 ($F = 3.22, p < 0.05$) and implementation of ideas ($F = 7.53, p < 0.05$), than
those offering a low level of support.

3 Feedback

5 The extent of feedback is positively related to scheme effectiveness. Those companies
offering a high level of feedback (from at least one of the specified possible
7 sources) recorded significantly higher perceived success ($F = 34.33, p < 0.05$)
and a significantly higher suggestion rate ($F = 5.19, p < 0.05$) than those that did
not. There is no significant difference in implementation rate.

9 Rewards

11 The three types of rewards were first analyzed separately to establish their effects,
and then together to investigate whether additive use of rewards is beneficial. That is
we examined whether the effect of each type of reward is independent of the others
13 or whether they all account for the same variance in effectiveness scores or rates.
We also examined whether the use of one type of reward increased the effectiveness
15 of another type (i.e., to identify any interactions between use of different types of
rewards).

17 When the three reward types are considered separately, recognition is a significant positive predictor of perceived success ($F = 23.75, p < 0.05$) and suggestion
19 rate ($F = 3.82, p < 0.05$). Non-monetary rewards follow the same pattern: they
are significantly positively related to perceived success ($F = 31.34, p < 0.05$)

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1 and suggestion rate ($F = 9.26, p < 0.05$), but not to the implementation rate.
2 Monetary rewards are unrelated to both suggestion and implementation rates at
3 the $p < 0.05$ level, though their positive relationship with perceived success is
significant ($F = 4.08, p < 0.05$).

5 The three reward variables were then entered together as predictors for each
7 effectiveness measure, to assess their combined effect and the unique contribution
9 of each reward type. The combined effect of the three reward variables is a significant
11 predictor of perceived success ($F_{\text{Change}} = 15.65, p < 0.05$), but only the unique
13 effects of non-monetary rewards and recognition are significant in themselves at
the $p < 0.05$ level. When predicting suggestion rate, the rewards variables together
15 significantly improve the fit of the model, but again only the effect of non-monetary
rewards is significant at the $p < 0.05$ level ($F = 6.21, p < 0.05$). The combined
17 effect of the three reward variables is not a significant predictor of implementation
rate, nor are any of the effects of the different reward types. Of the three types
considered, non-monetary rewards and recognition are clearly positively related to
both perceived success and suggestion rate. There is less evidence than expected of
the beneficial effect of monetary rewards.

The combined effect of design features

19 Having considered each design characteristic individually, we then examined their
21 unique effects on scheme effectiveness. These effects were assessed by entering
23 all the variables representing the five design features, namely planning, publicity,
support, feedback, and rewards (both recognition and non-monetary), as predictors
25 of effectiveness. Perceived success, suggestion rate and implementation rate were
each modelled in turn. The extent of monetary rewards was excluded since its effect
had already been shown to be non-significant.

27 The unique effects of each of the design features on each measure of scheme
effectiveness are summarized in Column 6, Table 4. If scheme effectiveness is mea-
29 sured by perceived success, all the design features, with the exception of feedback
make a statistically significant unique contribution at the $p < 0.05$ level. Together
31 they account for an additional 45.9% of the variance in perceived success on top
of that accounted for by organizational size, and the age and type of scheme. The
33 effect of feedback was, however, now statistically significant only at the $p < 0.1$
level, which is due to the combined influence of the other design variables, all of
35 which share medium-sized correlations with perceived success ($0.2 < r < 0.4$),
rather than one having a dominant effect. All design characteristics thus contribute
37 to the perceived success of a scheme. In contrast, when predicting suggestion rate
from all five design features, only the level of publicity and non-monetary rewards
make a significant unique contribution at the $p < 0.05$ level. For implementation

1 rate, only the level of management support makes a significant unique contribution
2 at the $p < 0.05$ level. The pattern of results therefore offers partial support for
3 Hypothesis 2.

Hypothesis 3: The effect of scheme type independent of design features

5 In this section, we report our analysis of the relationship between scheme type
7 and effectiveness, taking into account the effects of all five design features. Hav-
9 ing controlled for the design features, scheme type predicts perceived success
11 ($F = 4.39, p < 0.05$). This effect is marginally stronger than that found in our
13 initial model that excluded design features, though this increase is largely an arte-
15 fact of a change in the sample (listwise deletion of cases with missing data on
Table 3, row 2).

17 The results for suggestion and implementation rates are consistent with those
19 for perceived success. Including the design features in the model does not decrease
21 the effect of scheme type when effectiveness is measured by either suggestion rate
23 ($F = 5.93, p < 0.05$) or implementation rate ($F = 2.29, p < 0.1$). In both
25 cases the effect is actually stronger than that found in the original model not con-
27 taining the design features. This increase, though, cannot be entirely attributed
29 to a change in the sample, as was the case for perceived success. The pattern of
samples, with the values for decentralized schemes greater than those for infor-
mal schemes or work-based systems, which in turn are estimated as more pro-
ductive than centralized schemes. The estimated marginal means and rates are
given in Table 3 (rows 4 and 6, respectively). The overall pattern of results
(including those that relate to Hypothesis 2) indicates that Hypothesis 3 can be
accepted.

31 In addition we tested to see if scheme type affected the strength of the effect of the
33 design features on effectiveness and found that, with one exception, it did not vary
35 by the type of scheme. The exception was the relationship between feedback and
37 suggestion rate (the interaction between scheme type and feedback was significant
at the $p < 0.05$ level). More specifically, feedback has a very strong positive effect
for decentralized schemes, a less powerful but still positive effect for work systems
and informal schemes, and almost no effect for centralized schemes.

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1 **Hypotheses 4 and 5: Interactions with planning and publicity**

3 Having considered the main effects of the design features, we then tested the
5 hypotheses based upon interactions between them, specifically whether either lev-
els of planning or publicity affect the relationships between the other features and
scheme effectiveness. As before, we controlled for the effects of organizational size,
age of scheme and scheme type before assessing the main and interaction effects.

7 No significant interaction effects were found between the extent of planning and
9 any design feature for any of the effectiveness measures. Thus, Hypothesis 4 can be
11 rejected. This result is repeated for publicity, but with two exceptions: the positive
impact of support and recognition on perceived success are both stronger when
publicity is low than when it is high. Hypothesis 5, therefore, can be rejected.

13 **Hypotheses 6 and 7: Learning culture**

15 Finally, we investigated the effects of learning culture on the relationships of
17 scheme type and design features with effectiveness. First, we examined the direct
relationship between learning culture and scheme effectiveness. Having controlled
for the effects of organizational size, and scheme age and type, learning culture itself
is significantly positively related to perceived success of the scheme ($F = 8.20$,
 $p < 0.05$), but not to either suggestion or implementation rate.

19 Second, we examined whether learning culture moderated the relationship
21 between type of scheme and effectiveness (Hypothesis 6), controlling for orga-
23 nizational size and age of scheme. The product of learning culture and scheme type
25 represented the moderation effect. Although the findings reveal no (significant) mod-
27 eration effect for perceived success ($F = 1.96$, $p < 0.15$), it nonetheless accounts
29 for 3.8% of the variance. Examination of the plot suggests that the relationship
31 between learning culture and success is stronger for centralized and decentralized
33 schemes than for work-based systems and informal schemes. The moderation effect,
35 however, was significant in predicting suggestion rate ($F = 3.14$, $p < 0.05$); that is,
37 the relationship between learning culture and suggestion rate is stronger for decen-
tralized schemes than for the others. There is no evidence of any similar moderation
effect when predicting implementation rate. Hypothesis 6 is therefore rejected, as
we predicted that the form of the interaction(s) would show a strong, positive effect
for work-based systems.

33 Third, we examined the extent to which learning culture moderated the
35 relationship between the design features and scheme effectiveness (Hypothesis 7),
37 controlling for organizational size, and scheme age and type. The interaction term
was the product of learning culture and use of the relevant design feature. Significant
effects were found for management support and rewards. The interaction between
learning culture and support is statistically significant for both perceived success

1 ($F = 6.65, p < 0.05$) and suggestion rate ($F = 10.75, p < 0.05$), but not for
3 implementation rate. If measured by two of the outcome measures, the predicted
5 effectiveness of a scheme (adjusted for the control variables) is strongly related to
7 management support when learning culture is low, but the importance of support
9 is diminished as learning culture increases. Likewise, if learning culture is low, the
11 estimated marginal means of perceived success are significantly higher for those
companies where rewards, defined by recognition, are higher than for those where it
is low ($F = 6.48, p < 0.05$). As learning culture increases the difference between
the two groups is reduced. This effect is mirrored for suggestion rate but is not
significant. The pattern of results indicates that Hypothesis 7 can be rejected, as the
interaction effects are contrary to expectations.

Discussion

13 The aim of this study was to examine the effectiveness of different types of idea
15 capture scheme. The findings partially support the hypotheses. Diversity across the
17 schemes in effectiveness was found for suggestion rate, and to a lesser extent for
19 perceived success. For these measures, the results indicate that work systems do best
21 (Hypothesis 1). With regard to implementation rate (Hypothesis 1), no effect was
23 observed. Type of scheme was also found to predict effectiveness (perceived success,
25 suggestion rate and, to a lesser extent, implementation rate) beyond that accounted
for by the design features (Hypothesis 3). Although work-based systems are the
best with regard to overall success (consistent with the results for Hypothesis 1),
decentralized schemes are found to have the highest suggestion and implementation
rates. The effectiveness of both decentralized and work-based schemes could stem
from the fact that they are managed locally. Overall, though, the pattern of results
(Hypotheses 1 and 3) indicates that decentralized schemes and work systems are
more effective than informal and centralized suggestion schemes.

27 The findings, though, showed that the design features themselves independently
29 predicted effectiveness, primarily perceived success and suggestion rate
(Hypothesis 2). This finding implies that regardless of type, schemes that had higher
31 levels of the design features were more likely to be effective. Only management support,
however, independently and uniquely predicted the implementation rate.

33 The results of the analysis of the interaction between design features also revealed
35 that two of the design features, namely management support and recognition, adopt
a compensatory role. In other words, the findings showed that when publicity and
learning culture is low, rather than high, these design features have significant
37 effects. This pattern of findings was unexpected because we hypothesized that at
low levels of publicity and learning culture, when employees are more likely to be

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1 unaware of the scheme's existence or unresponsive to it, the amount of support and
recognition would have no effect.

3 **Limitations and future research**

5 The first limitation is that the study was cross-sectional in design, which provides
no basis for establishing causality. With regard to the design features, although
7 the findings support the direction of causality assumed, an alternative (reverse)
specifically, the findings could be interpreted as indicating that once a scheme has
9 been seen to be working well it receives greater levels of publicity, support, and
other design features. There is a need, therefore, to conduct longitudinal studies,
11 to demonstrate a causal link between the design features and scheme effectiveness.
Such studies should measure the design features and suggestion and implementation
13 rates over a period of, say, 12 months. This would allow the effect of any change in
level of design features to be evaluated.

15 The second limitation concerns the extent of missing data for suggestion and
implementation rates (25 and 45%, respectively). This is a concern, particularly
17 in respect of the implementation rate, because the reduced sample means that
19 significant effects are harder to detect. This notwithstanding, the sample sizes
reported were adequate for suitable analyses to be performed. Furthermore, the
21 pattern of results complements other studies of suggestion making and innovation
(Axtell *et al.*, 2000). Future studies, though, should aim to involve organizations
that comprehensively record the effectiveness of their idea capture scheme(s).

23 The amount of missing data, however, does indicate that many organizations do
not routinely record data concerning the outputs of their idea capture scheme(s).
25 On the one hand, this suggests that a significant number of organizations might
not be able to determine the worth of their schemes; on the other, it may indicate
27 that effectiveness is recorded or evaluated in some other way. The relatively small
amount of missing data with regard to overall scheme success (10%) suggests that
29 most organizations are aware of the effects of their scheme(s).

31 The third limitation concerns the reliance on a single respondent from each orga-
nization to provide the data, particularly on the design features, which can produce
33 strong correlations between measures. For instance, an individual possessing a pos-
itive opinion of idea capturing may respond favorably to all items. The opposite
35 holds for those possessing a negative opinion. The underlying problem is that this
form of bias, or same-source variance, reduces objectivity. Nonetheless, the fact that
37 the correlation coefficients between the design features are either weak or modest
(shown in Table 2) and that we found some moderated relationships in our data sug-
gests that same-source variance was not a problem in the present study. However,

1 using multiple respondents or researchers' independent audits of organizational
2 practice, where appropriate, could add to the reliability of studies.

3 The fourth limitation concerns our focus on the principal type of idea capture
4 scheme used. In reality, organizations may simultaneously use several types of
5 schemes. They could use centralized or decentralized suggestion schemes to capture
6 ideas on any topic, as well as, say, quality circles for specific issues. As such, a
7 comparison of the different combinations of schemes used across organizations
would be worthwhile.

8 The fifth limitation relates to the relative absence of contextual information; that
9 is, whether schemes are part of a specific (broader) initiative such as gainsharing and
10 total quality management, or whether they are stand-alone. It is plausible, however,
11 that schemes embedded within such initiatives receive a greater number of ideas
12 than those that are not. It is also possible that different types of initiatives have
13 different effects on scheme effectiveness, and thus future studies should assess
14 whether schemes that form part of a broader initiative are more effective.

15 Future studies should also consider three additional issues. The first concerns the
16 measurement of scheme effectiveness. The hypotheses we have tested are funda-
17 mentally concerned with the supply of ideas. The suggestion rate is clearly a direct
18 measure of this supply, whereas the implementation rate and the success measure
reflect the interaction between the supply and the demand for such ideas. Insofar as
20 the design features are successful at producing a congruity between management
21 and worker's expectations, a model of the predictors of suggestion rate should be
22 applicable to the other measures. This, however, is unlikely to be the case. The
23 demand for ideas is subject to a range of influences, which may account for the
24 lack of an implementation effect in the present study. Amongst these will be the
25 filtering process that eliminates duplicate ideas, or ideas where the costs, which
26 may not be apparent to the person making the suggestion, outweigh the benefits.
27 Financial constraints, for instance the availability of funds, will also dictate the num-
28 ber of ideas implemented. Given such constraints on the extent to which ideas are
29 implemented, we suggest that future studies examine additional aspects of scheme
30 effectiveness, such as the total savings per idea per year or increases in produc-
31 tivity and profits that might arise from the use of ideas, which capture the relative
32 magnitude of ideas implemented and the capacity of schemes to produce beneficial
ideas.

33 The second issue concerns feedback. This study was interested in how much
34 information was given to employees on their ideas. We propose that future studies
35 should not only consider the quantity of feedback, but also its quality in terms of
36 timeliness, detail and clarity. This would enable examination of synergies amongst
37 the various facets of feedback (e.g., whether quality moderates the relationship of
38 quantity with scheme effectiveness).

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1 The final issue concerns patterns in suggestion making. It would be worthwhile
2 to examine whether upturns in suggestion making follow publicity and to scrutinize
3 the nature of ideas collected. In terms of the latter, based on Arthur and Aiman-
4 Smith's (2001) terminology, ideas could be coded as first- and second-order. First-
5 order ideas refer to suggestions regarding the improvement of existing equipment
6 and ways of working. Second-order ideas concern suggestions for new patterns of
7 work. It would be useful to examine whether the nature of suggestions changes over
8 time and to assess the extent to which the type of scheme and its design features
9 affect the kind of ideas submitted.

Conclusion

11 We have assessed the relative importance of types of idea capture schemes and
12 their design features as means of collecting employees' ideas. Our findings can
13 be used to inform scheme selection and design and to improve schemes that are
14 already in operation. The percentages reported in Table 2 show that high levels
15 of planning, publicity, support and non-monetary rewards across the scheme types
16 are currently not that common and suggest that there is scope for improvement
17 within organizations. The results suggest that particular attention should be given
18 to publicity and non-monetary rewards, though all design features are important for
19 ensuring schemes that are used by employees.

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