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ABSTRACT
        This study examined the relationship among
accountability, efficacy, and organizational effectiveness by
integrating findings from 17 research and development reports on
Management by Objectives (MBO), an intervention that incorporates
elements and processes of both accountability (goal-setting,
measuring and monitoring, feedback) and efficacy (subordinate
participation and interaction with supervisors). Findings from the
reports were qualitatively integrated using propositional analysis, a
technique that traces findings, generalizations, and recommendations
and recasts them in ways that are relevant to the study. While these
findings indicate a generally positive effect of MBO on productivity
and attitudes, the study revealed four elements and processes in MBO
that have been linked with efficacy: participation, interaction
between supervisors and subordinates, managerial support, and
positive reinforcement. While MBO programs generally lead to improved
productivity and attitudes, several factors leave the cause of the
gains open to interpretation: the frequent absence of control groups,
a failure to note specific management philosophy behind each MBO
program, a lack of description of the implementation process and its
effects, and a lack of detail about day-to-day decision making and
its effects. A 24-item bibliography is included and 10 tables from
the study are appended. (TE)

Efficacy and Accountability in Organizations

by Ulrich C. Reitzug

Paper presented at the Annual Meeting of the American Educational
Research Association (Washington, DC, April 20-24, 1987).

Efficacy and Accountability in Organizations

I. PROBLEM STATEMENT

During its 1987 legislative session the Indiana State
Legislature passed a $390 million package of education
reforms. One of the Key components of the reform package
was an increased emphasis on school accountability.
Specific items included performance-based accredidation
for schools, mandatory evaluation systems for teachers
and administrators and, rewards tied strictly to
performance. The Indiana reform package is not unique.
It is a representative example of similar
accountabilit,-based school reform packages being passed
by state legislatures throughout the country and
indicative of the continued entrenchment of
accountability as a part of mainstream school and
organizational thinking in the United States.

Accountability stems from the predominant model of
American organizations, the bureaucracy. Bureaucratic
principles were first developed by Max Weber early in
the 20th century. Weber wrote that "methodical
provision" must be made for the "regular and continuous
fulfillment" of duties (Gerth and Mills, p.196) and,
that there be an "objective discharge of

business...according to calculable rules and without regard for persons" (p.215). The advantage of this style of management, Weber noted, lies in, "eliminating from official business...personal, irrational or emotional elements" (p.216).

The continued emphasis on accountability is reflected in a passage from a widely used textbook in organizational theory. "Control is a major responsibility of management, and...includes the three stages of target-setting, measuring and monitoring, and feedback" (Daft, 1986, p.316). Several assumptions are implicit in this statement:

1. targets and goals are prospectively specifiable;

2. activities leading to target and goal attainment are delineative and measurable;

3. appropriate feedback will cause people to alter their behavior, aligning it with organizational targets.

The validity of these assumptions and of accountability as a strategy for productivity is being challenged by many contemporary organizational theorists. They argue that:

1. Organizational goals are retrospective rather

than prospective (e.g. Weick, 1979; March and
Olsen, 1979).

2. Cause and effect are arbitrary and muitiple.
   Weick writes, "When any two events are related
   interdependently, designating one...cause and
   the other effect is an arbitrary designation"
   (1979, p.77) and, "there is no simple, finite
   set of causes for anything that happens in an
   organization" (p.246).

3. Feedback may cause temporary behavior change,
   but long range effectiveness comes from
   individuals with feelings of self-efficacy.
   Peters and Waterman write, "The lesson that
   excellent companies have to teach is that there
   is no reason why we can't design systems that
   continually reinforce this notion" [that every
   person is a "winner"] (1982, p.57). Instead of
   ridding official business of personal and
   emotional elements, as Weber advocated,
   contemporary theorists imply that attention to
   personal and emotional elements fosters
   productivity.

Some theorists argue that accountability and efficacy
are complementary or, that a balance can be struck

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between the two. For example, Fuller, Wood, Rapoport and
Dornbusch write, "Evaluation activity has traditionally
controlled behaviors of subordinate actors to ensure
compliance with central goals. Evaluation processes may
also influence individual efficacy...when the
subordinate actor perceives that evaluation of his/her
program is soundly-based" (1982, p.23-24). An evaluation
is defined as soundly-based when the subordinate actor
feels that it is affected by his/her performance.
Unfortunately, the only time this is likely to occur is
when the subordinate actor's performance is in the top
25% of all people performing similar tasks and is
perceived as such by the evaluator. Since studies have
shown that 70% of the population rate themselves as
being in the top 25% on any given task (Peters and
Waterman, 1982, p.57), if the individual is underrated
on an evaluation (in his/her opinion), does s/he assume
the evaluation is based on performance? Certainly not!
The individual's sense-making powers do not permit this.
S/he is more likely to attribute the poorer than
expected evaluation to any of a host of other factors,
unrelated to actual performance. Consequently, the
evaluation is not perceived as being soundly-based and,
therefore, does not promote efficacy. If the individual

had received a positive evaluation (and, hence one that sense-making powers perceived as being soundly-based), for less than positive performance, the evaluation would not have promoted accountability. Thus, leaders are faced with a paradox. To the extent that evaluations serve accountability, they do not promote efficacy; to the extent they promote efficacy, they do not serve accountability. Which strategy does a leader choose?

This study examined the relationship between accountability, efficacy and organizational effectivness by integrating findings from existing R and D reports on Management by Objectives (MBO), an accountabilty intervention that incorporates elements and processes of both accountability (goal-setting, measuring and monitoring, feedback) and efficacy (e.g. subordinate participation, interaction with supervisors).

II. OBJECTIVES and PROCEDURES:

The study had two objectives:
1. To describe and estimate the relationship between accountability and organizational outcomes, based on evidence from one intervention i.e. Management by Objectives.
2. To describe and estimate the effects of other

organizational elements and processes on

accountability and efficacy in order to clarify

the relationship between these two concepts.

Accountability was defined as, "the systematic effort to

measure and monitor the extent to which individual or

group performance matches organizational goals and, to

communicate feedback that brings performance and goals

into alignment". Efficacy was defined as, "the

individuals perceived expectancy of obtaining valued

outcomes through personal effort" (Fuller et.al., 1982,

p.7). The source of data was R and D reports which

studied the relationship between MBO and organizational

outcomes. Organizational outcomes utilized were those

used by the author of the R and D report being analyzed.

Findings were qualitatively integrated using

propositional analysis, a technique which traces

findings, generalizations and recommendations and

recasts them in ways that are relevant to the study.

III. INTRODUCTION

Management by Objectives (MBO) was created with the

intention of developing a superior form of performance

appraisal. Whereas traditional appraisal systems were

based on both objective and subjective criteria that

were established solely by management, in MBO appraisal was based on measurable performance goals that were set jointly between superior and subordinate.

Formally defined, MBO is, "a managerial process whereby organizational purposes are diagnosed and met by joining superior and subordinate in the pursuit of mutually agreed upon goals and objectives, which are specific, measurable, time bounded, and joined to an action plan; progress and goal attainment are measured and monitored in appraisal sessions which center on mutually determined objective standards of performance" (McConkie, 1979).

MBO has achieved widespread acceptance in business, industry, schools and service organizations since its development. It has also been the subject of much writing in books, magazines and other periodicals. Yet its effects and the reason for these effects has seldom been examined. While Kondrasuk (1981) cites 185 works which address the effectiveness of MBO, the vast majority of these pieces are not R and D reports but rather "testimonial" type case reports. This study found only 17 studies that were R and D reports.

IV. FINDINGS:

Sample

Of the seventeen studies analyzed, fourteen measured
MBO's effect on productivity and thirteen its effect on
employee attitudes. The studies took place in a variety
of organizations, ranging from manufacturing concerns to
universities. Methodologies used in the studies varied
with surveys frequently used to assess employee
attitudes and experimental groups used to assess changes
in productivity (see Table 1).

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insert Table 1 about here

Productivity

Of the seventeen studies analyzed, fourteen measured
productivity. Eleven of the fourteen showed a positive
effect of MBO on organizational productivity, two showed
no statistically significant difference in performance
after MBO implementation and, one showed a decrease in
performance after implementation of MBO (see Table 2).

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insert Table 2 about here

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While the studies appear to present a strong argument in
favor of MBO's positive effect on productivity, they
must be interpreted in the context of a finding by
Muczyk (1978). Muczyk's study involved an experimental
and two control groups. The first control group knew it
was part of the study, but was not subjected to MBO. The
second control group was not subjected to MBO nor were
they aware that they were part of the study. All three
groups we·e matched. Twelve months after MBO was
implemented, the performance of the three groups was
measured. All the groups showed statistically
significant improvements in performance when compared
with their pre-experiment performance, but no group
improved significantly more than any of the other
groups. Muczyk writes, "if the author had not used
control groups, this study could have been interpreted
as a testimonial on behalf of MBO". If we examine the
nine studies that showed increased productivity after
the implementation of an MBO program, we find that only
4 of them used control groups (Dossett, 1979;
Hollingsworth, 1978; Ivancevich 1974, 1976). The

Hollingsworth (1978) study obtained results similar to those of the Muczyk study, that is, both the experimental and control groups improved, but without a statistically significant difference between the two. The other three studies all showed greater productivity for the experimental groups when compared with the control groups, but in each case, productivity gains dissipated within 8 to 36 months.

Attitudes

Of the 17 studies analyzed, 13 measured the effect of MBO on employee attitudes (see Table 3). Seven of the 13 studies showed a positive effect on attitudes; 3, a negative effect on attitudes and; 3, no effect on attitudes.

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insert Table 3 about here

Efficacy Elements/Processes

While the above findings indicate a generally positive effect of MBO on productivity and attitudes, the study surfaced a number of elements and processes in MBO

programs that have been linked with efficacy.

Specifically cited were:

1. participation, which increases the individuals
   effect on organizational outcomes;

2. superordinate-subordinate interaction which
   facilitates resource exchange and .n turn, leads
   to greater organizational efficacy (Fuller,
   1982);

3. managerial support, which creates conditions
   that allow the individual to be effective, and;

4. positive reinforcement, which promotes a feeling
   in the individual that s/he is effective.

The presence of efficacy-building elements in MBO raised
the question of whether the outcomes attained after MBO
implementation were a result of the accountability
elements and/or the efficacy elements. In an attempt to
shed light on this question, the implicit and explicit
effects of these elements and processes on
organizational outcomes were examined.

Participation

Several studies that examined the effects of assigned
versus participatively set goals (see Table 4) found
that both methods of goal-setting improve productivity,

with neither method being clearly superior to the other.
Neither Dossett (1970), Carroll (1970) nor Ivancevich
(1976) found participatory goal-setting to result in
improved productivity when compared with assigned
goal-setting. Only Meyer (1965) found participatory
goal-setting to have a positive effect on productivity.

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insert Table 4 about here

While participation in goal-setting did not affect
productivity, two studies found that it did improve
employee job attitudes (see Table 5). Both Meyer (1965)
and White (1974) found that a high degree of employee
participation in goal-setting favorably affected job
satisfaction. Ivancevich (1976) also found improved
attitudes in a participative goal-setting group but
found a similar improvement also took place in the
assigned goal-setting group. Tosi (1973) found that
employees, involved in an MBO program that had
consciously attempted to increase employee goal-setting
participation, did not perceive themselves as having any
additional influence after the change. Tosi speculated
that this was because employees did not perceive their

bosses as functioning in a more participatory management style simply because a different method of goal-setting was used. He recommended that training methods be used that focused on changing management style. In a related finding, Terpstra, (1982) dis-overed that in a university setting the addition of an MBO program in which professors "contracted" for departmentally set goals led to a decrease in job satisfaction and to a perception of decreased individual efficacy. Terpstra speculated that professors, who are accustomed to autonomy and academic freedom, felt constrained and frustrated by an intervention that removed some of their freedom. The Tosi and Terpstra studies highlight the importance of employee percepetions. The perception employees have of the degree of participation in goal-setting may well be more important than the actual degree of participation.

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insert Table 5 about here

Positive Reinforcement

While only 3 of the studies specifically mentioned additional positive reinforcement as a characteristic of

the MBO program being studied with only one of these
utilizing MBO both with and without positive
reinforcement, all 3 studies showed increases in
productivity (see Table 6). Ivancevich (1974) found
that, in a comparison of two experimental plants using
MBO, the plant using positive reinforcement not only
showed significantly better results than the
non-positive reinforcement plant, but also improved its
own performance significantly during the reinforcement
period when compared with pre-reinforcement periods.
Migliore (1977a) and Futrell (1977) also found that
productivity improved when positive reinforcement was a
component of the MBO program.

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insert Table 6 about here

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At the opposite end of the reinforcement spectrum, Meyer
(1965) found that employees who received an above
average amount of criticism in an MBO program showed
less goal achievement and exhibited more defensive
behavior than those who received a below average number
of criticisms. In addition, improvement in the most
criticized areas of performance was considerably less

than improvement in other areas. Meyer speculated that the reason frequent employee criticism led to a decrease in employee performance was that criticism was such a strong threat to self-esteem that it disrupted, rather than enhanced, performance.

The presence of positive feedback is also a frequently cited contributing factor to improved employee attitudes in MBO programs (see Table 7). Ivancevich (1970), found that the more feedback an employee received, the more satisfied the employee was with his/her job. In a later study, Ivancevich found that the addition of positive reinforcement to an MBO program caused the previously escalating grievance rate to decrease (1974). Migliore (1977a) and White (1974) found improved employee attitudes when positive reinforcement was used in an MBO program. Futrell (1977), however, found that there was no change in attitudes after the addition of positive reinforcement to an MBO program. This, however, may have been due to the mitigating influence of increased accountability and decreased goal-setting participation, which occurred simultaneously.

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insert Table 7 about here

Superordinate-Subordinate Interaction

Increased interaction between superordinate and subordinate also has been found to positively affect job perceptions (see Table 8). Ivancevich (1970), Meyer (1965), Migliore (1977b) and White (1974) all reported that an increase in superior-subordinate interaction resulted in improved employee attitudes.

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insert Table 8 about here

Management Support

Upper management support of MBO also plays a part in developing positive employee attitudes (see Table 9). Carroll (1970), Ivancevich (1970) and Shetty (1974) found that there was a correlation between high supportiveness on the part of managers and positive subordinate attitudes.

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insert Table 9 about here

VII. SUMMARY OF FINDINGS

Findings from the efficacy elements and processes are summarized in Table 10.

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insert Table 10 about here

When these findings are combined with the previously discussed effects of MBO in general, several conclusions become apparent:

1. MBO strongly and positively effects productivity;

2. MBO has a lesser, but still positive effect on attitudes;

3. efficacy elements in an MBO program strongly and positively effect attitudes;

4. efficacy elements have a lesser, but still positive, effect on productivity.

These conclusions are graphically depicted in Figure 1.

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insert Figure 1 about here

Conflictual Nature of Efficacy-Accountability

Several problems, rooted in the conflictual nature of accountability and efficacy, surfaced during the course of the research. The problems are related, but each occurs at different stages of the MBO intervention and takes the previous problem to a greater level of specificity. These problems made it difficult to determine what had caused the organizational outcome attained in a particular study.

On the most general level, the problem concerns the philosophy and purpose underlying MBO's use in an organization. MBO includes principles of both efficacy, ("We believe you are intrinsically motivated and want to do your best so we'll let you participate in setting your own goals") and accountability, ("We have to have a way to make sure you're doing what we want you to do, so we'll hold you accountable for the goals we've set"). Tosi and Carroll (1973) highlighted this when they wrote, "It (MBO) has been, depending on who is using it, an evaluation tool...a technique for organizational

development, and a way to increase the participation and influence of subordinates" (p.57). In a similar vein, Raia (1966), in referring to an existent MBO program, wrote, "A management system of this type can be made to move in either direction" (that is, as a "whip", or as a "motivator") (p.57).

On the next level, the problem is one of implementation. The presence of both efficacy and accountability elements in one intervention leaves open the probability that when MBO is implemented, situations will occur where accountability and efficacy become conflictual. For example, what happens when supervisor and subordinate cannot agree upon goals? Or, when what's best for the individual is not what's best for the organization? Is the individual held account ble for the organization's goals or, is s/he allowed to help chart the path of the organization by striving for goals that are different from the organizational norm? In effect, how does an organization implement MBO?

On the most specific level, the problem is one of decision-making. Specifically, this problem deals with what decision is made when an efficacy-accountability conflict situation arises after MBO has been implemented

in an organization. For example, what happens when goals are not attained? Or, when one's best is not good enough for the organization? Does reinforcement of positive attainments take place or, are sanctions applied for those areas where performance has not measured up to goals?

At each level, decisions made are likely to effect decisions made at the next level. For example, opting for efficacy at the philosophy level is likely to effect the way MBO is implemented. However, while a decision at one level is likely to effect decisions at the next level, it does not preclude the opposite choice at the latter level. For example, an organization may decide to use MBO in order to increase employees participation in goal-setting. While this decision increases the likelihood that employees will have more participation in setting their goals, it does not preclude the possibility of a manager imposing his/her personal goals for an employee upon that individual. The three-pronged problem is illustrated in figure 2.

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insert Figure 2 about here

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VIII. CONCLUSION:

Considering MBO's widespread use, we have a relatively small number of studies supporting such a commonly accepted management intervention.

While MBO programs generally lead to improved productivity and attitudes, several factors leave the cause of the gains open to interpretation:

1. the frequent absence of control groups;

2. a-failure to note the specific management philosophy behind each specific MBO program;

3. a lack of description of the implementation process and its effects;

4. a lack of description of the day-to-day decision-making and its effects, specifically as it pertains to efficacy-accountability conflict situations.

Research is needed that addresses these concerns and isolates the effects of various characteristics of MBO programs (e.g. positive reinforcement, increased interaction, upper management support).

Finally, decisions regarding the use of MBO should include more than considerations of organizational productivity. Terpstra (1982) writes, "If MBO leads to

long-term dissatisfaction among faculty, administrators
must weigh carefully the trade-offs associated with
dissatisfaction on the one hand and increases in
performance on the other" (p.365). If individuals spend
time in organizations only to serve the needs and goals
of the organization, then the individual will ultimately
serve the organization with less than his/her full
potential. Goals serving only organizational needs will
alienate, disenchant and limit an individual's
potential. The challenge for administrators lies not in
weighing trade-offs of organization versus individual,
but in discovering processes that serve the needs of
both.

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Table 1: Studies Contained in Sample

Study	Organization Type	Sample Size	Methodology
Carroll (1970)	manufacturing	129	survey
Dossett (1979)	"international corporation"	60	experimental control
Futrell (1977)	hospital supply	230	survey
Hollingsworth (1978)	hospital	NA	survey (pre-post) experimental control
Ivancevich (1970)	manufacturing	NA	survey
Ivancevich (1974)	manufacturing	181+	experimental control longitudinal
Ivancevich (1976)	sales (retail)	104	experimental control longitudinal
Meyer (1965)	manufacturing (General Electric)	92	experimental control survey (pre-post) interviews
Migliore (1977a.)	loading docks	210	survey
Migliore (1977b.)	can manufacturer	60	experimental control longitudinal
Muczyk (1978)	bank	32 banks	experimental control longitudinal
Rala (1966)	manufacturing (Purex)	15 plants	experimental longitudinal
Shetty (1974)	university	109	survey
Terpstra (1982)	university	23	survey interview
Timm (1977)	community service	44	survey
Tosi (1973)	not available	120	survey interview
White (1974)	health care	114	survey interview

Table 2: Effect of MBO Programs on Productivity

STUDY	PRODUCTIVITY EFFECT
Carroll (1970)	0
Dossett (1979)	+
Futrell (1977)	+
Hollingsworth (1978)	+ (*)
Ivancevich (1974)	+
Ivancevich (1976)	+
Meyer (1965)	-
Migliore (1977a.)	+
Migliore (1977b.)	+
Muczyk (1978)	+ (*)
Raia (1966)	+
Shetty (1974)	+
Terpstra (1982)	+
Tosi (1973)	0

+   study showed positive effect
-    study showed negative effect
0   study showed no change
(*) both the experimental and the control group
improved; no statistically significant intragroup
difference

Table 3: Effect of MBO Programs on Employee Attitudes

STUDY	ATTITUDINAL EFFECT
Carroll (1970)	+
Futrell (1977)	0
Ivancevich (1970)	+
Ivancevich (1974)	-
Ivancevich (1976)	+
Meyer (1965)	-
Migliore (1977a.)	+
Muczyk (1978)	0
Shetty (1974)	+
Terpstra (1982)	-
Timm (1977)	+
Tosi (1973)	0
White (1974)	+

+   study showed positive effect
-    study showed negative effect
0   study showed no change

Table 4: Effect of Participation in Goal-Setting on
         Productivity in MBO Programs*

STUDY	PRODUCTIVITY
Carroll (1970)	0
Dossett (1979)	0
Ivancevich (1976)	0
Meyer (1965)	+

+   study showed positive effect
0   study showed no change
* when compared with assigned goal-setting

Table 5: Effect of Participation on Attitudes in MBO
Programs*

STUDY	ATTITUDES
Ivancevich (1976)	O
Meyer (1965)	+
Tosi (1973)	O
White (1974)	+

+   study showed positive effect
O   study showed no change
* when compared with assigned goal-setting

Table 6: Effect of Positive Reinforcement on
Productivity in MBO Programs

STUDY	PRODUCTIVITY
Futrel! (1977)	+
Ivancevich (1974)	+
Migliore (1977a.)	+ (**)

+   study showed positive effect
(**) effect measured in conjunction with effects of
other characteristics

Table 7: Effect of Positive Reinforcement on Attitudes
         in MBO Programs

STUDY	ATTITUDES
Futrell (1977)	0 (**)
Ivancevich (1970)	+
Ivancevich (1974)	+
Migliore (1977a.)	+ (**)
White (i974)	+

+   study showed positive effect
0   study showed no change
(**) effect measured ir. conjunction with effects of
other characteristics

Table 8: Effect of Increased Superior-Subordinate
Interaction on Attitudes in MBO Programs

STUDY	ATTITUDES
Ivancevich (1970)	+
Meyer (1965)	+
Migliore (1977b)	+ (**)
White (1974)	+

+   study showed positive effect
(**) effect was measured in conjunction with effects of
other characteristics

Table 9: Effects of Upper Management Support in MBO
Programs on Employee Attitudes

STUDY	ATTITUDES
Carroll (1970)	+
Ivancevich (1970)	+
Ivancevich (1974)	+ (**)
Shetty (1974)	+

+ study showed positive effect
(**) e.fect measured in conjunction with effects of
other characteristics

Table 10: Combined Effects of Efficacy Elements and
Processes on Organizational Outcomes

ELEMENT/PROCESS	PRODUCTIVITY EFFECT	ATTITUDINAL EFFECT
Participation	+ 000	++ OO
Support		++++
Interaction (with supervisor)		++++
Positive Reinforcement	+++	++++ O

+   indicates a study showing positive effect
-    indicates a study showing negative effect
0   indicates a study showing no change in category

	Productivity	Attitudes
Efficacy	+	++
MBO	++	+

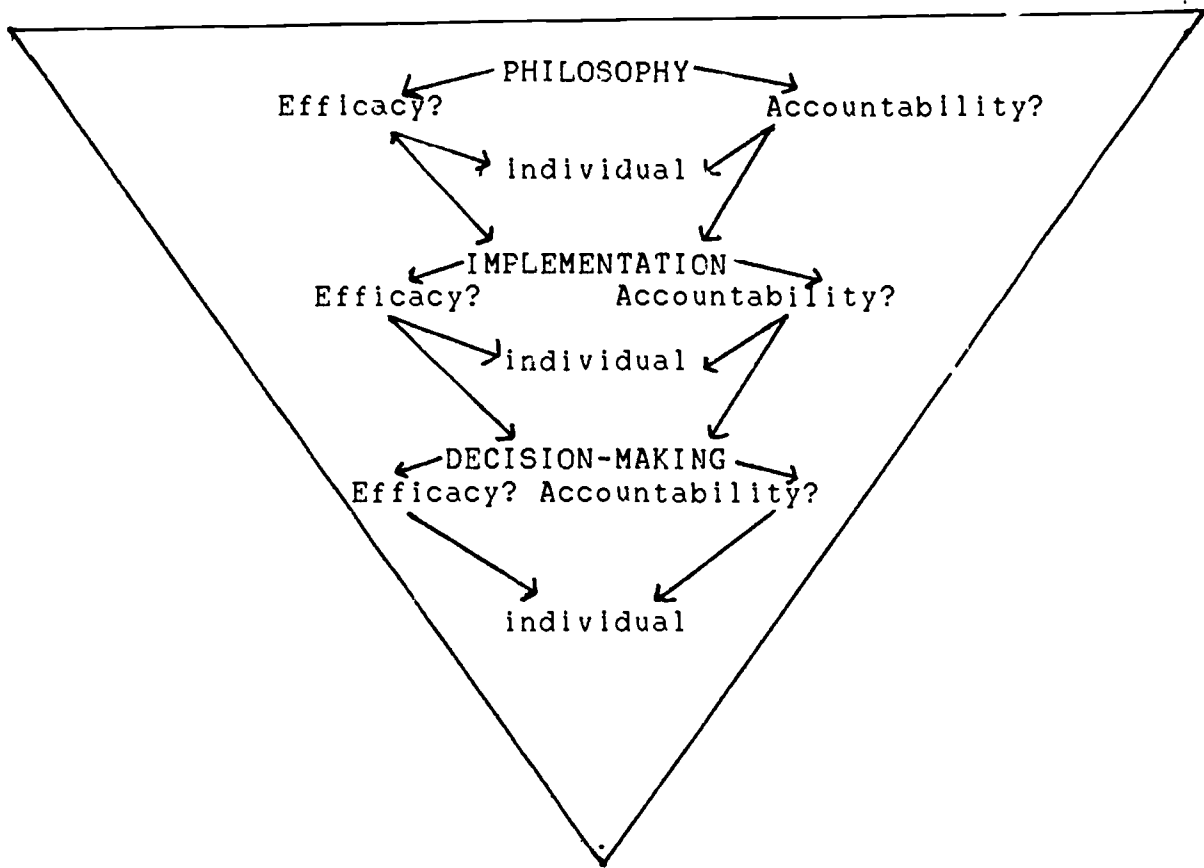Figure 1: The effects of MBO and efficacy elements and processes on organizational outcomes.

Figure 2: A depiction of the levels of conflict between efficacy and accountability in MBO intervention.