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# Leadership behavior and business process reengineering (BPR) outcomes

## An empirical analysis of 30 BPR projects

Norma Sutcliffe\*

*School of Computer Science, Telecommunications and Information Systems,  
DePaul University, 243 South Wabash, Chicago, IL 60604, USA*

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### Abstract

Lack of leadership is frequently a cause for the high failure rate of business process reengineering (BPR) projects. According to many experts, BPR implementation requires a top-down, directive leadership style. Yet, it also requires the management of motivated, skilled, independent-thinking people doing non-programmable tasks for which a non-directive leadership style is most suited. This creates an inherent conflict for BPR leaders on choosing the appropriate style. Applying the leadership effectiveness framework, this study conducted an in-depth empirical analyses of the relationship between IS leadership behavior and BPR outcomes for 30 BPR projects. We found that successful BPR leaders use leadership styles that fit the type of task that needs to be done and the needs of the people that will perform the tasks. Also, successful BPR leaders balance their efforts between meeting the needs of the people doing the work and the needs of the work. The results provide guidelines for both leadership practice and empirical research. © 1999 Published by Elsevier Science B.V. All rights reserved.

*Keywords:* Business process reengineering (BPR); Leadership behavior; Leadership traits; Leadership styles; Leadership tasks; Leadership consistency; Situation-style fit; Survey research

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### 1. Introduction

BPR has been proclaimed the ‘single best hope’ for restoring competitive advantage [22]. Indeed, it was estimated that companies would spend \$52 billion on BPR in 1997, \$40 billion of which would go to information technology [52]. However, BPR is notorious as a challenging pursuit; even advocates estimate that 50–70% of all BPR efforts fail [20,23].

There are a variety of reasons cited for this high BPR failure rate: employees’ resistance to change, inadequate attention to employee concerns [41], inadequate and inappropriate staffing, flawed objectives, inadequate tools for the developers and users, goals not aligned with strategy, lack of measurable and attainable goals, and a lack of oversight during implementation and follow-up phases. While some projects fail from poorly formulated strategy, one principal cause is a failure in committed leadership [21].

Yet, the message to leaders embarking on BPR especially IT leaders who usually play a key role

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\*Fax: 847-482-0160

E-mail address: nsutcliffe@cti.depaul.edu (N. Sutcliffe)

in BPR is inherently conflicted. On one hand, BPR is a top-down phenomenon where a directed, committed leadership is critical for success particularly in the implementation phase [8,30]. On the other hand, BPR implementation is highly non-programmable requiring highly motivated, skilled and independent people who can solve all the unforeseen problems and challenges that BPR poses. Thus, there is a potential conflict between the nature of BPR and the style of leadership typically used; BPR leaders are required to be directive while they must also allow people to be motivated and independent. This leads to an unresolved question: is a directive or non-directive leadership style more effective in implementing BPR projects? Unfortunately, few theoretical analyses offer insights to scholars, and no systematic guidelines are available to practitioners.

Applying the Flamholtz Leadership Effectiveness framework [15,16], this study analyses the relationship between IS leadership behaviors and BPR outcomes for 30 completed BPR projects.<sup>1</sup>

## 2. Theories of leadership

### 2.1. Research on BPR leadership

While few studies explicitly looked at the differences between successful and unsuccessful BPR projects, previous studies identified the characteristics of successful leaders of IT projects. These studies found that 'IT champions' are characterized as charismatic, motivating, and intellectually stimulating; they inspired others to go beyond self-interest for a higher collective purpose [3,29]. Compared to other managers, champions have the organizational power and knowledge to overcome resistance [32,37,45]. Another study, looking at 15 successful reengineering projects, found an easily identified champion who was involved throughout the project [11]. The Reich and Benbasat [42] study also found that IT efforts did not perform well when the champion lost direct control.

<sup>1</sup>The majority of BPR projects end prematurely because of their unmet milestones and unplanned, escalating commitment of resources.

### 2.2. Research on BPR implementation

Lewin [35] posited that change has three phases (unfreezing, moving, and refreezing), but are the phases equal in importance for predicting success? Zand and Sorenson [57] found implementation, or refreezing, is more strongly associated with success than the other two. Reinforcing these findings on the importance of refreezing, implementation, for successful change, Grover et al. [19] reported that change management is critically important for success. When BPR participants from 105 organizations ranked the importance of 64 BPR problems gleaned from the literature, change management problems were the most severe. Some problems were not recognizing the need for change, maintaining a rigid hierarchical structure, and failing to anticipate and plan for organizational resistance.

### 2.3. An overview on leadership theories

Leadership studies have either emphasized the characteristics, or *traits*, of leaders or their *behavior*. For many years, researchers attempted to find a pattern of *traits* of successful leaders. Yet, after numerous studies the conclusion was that the traits associated with leadership in one situation had no predictive power in another [50].

Then the emphasis in leadership research shifted to looking at leadership *behavior*. The result has been a number of theories that explore the effectiveness of leadership styles and behaviors. While some theories found a leadership style that was better than others [4], most leadership behavior theories adopted a contingency approach [12,13,14,17,26,27,31,43,53]. Under this approach, no leadership behavior works in all situations.

More important, none of these theories considered the leadership of *change*. According to Bass [2], the contingency behavioral approach applies only to first-order change where improvement is sought within a fixed, contextual framework. Because this approach aims at meeting the self-interests of followers, it does not apply when second or higher-order change is the goal. The introduction of new paradigms, the radical shift of attention to different concerns, an aroused need for self-actualization, and a sense of urgency in making this change characterize this latter type of change.

Bass labels as *transformational* leaders those who are successful in managing their organizations through this *radical* change. In contrast, *transactional* leaders are those who lead people through only *incremental* change. Transformational leaders use their personal charisma, articulate high expectations, intentionally stimulate others’ intellect in advancing the desired changes and serve as a role model in successfully managing radical change; transactional leaders rely on rewards for good work and punishments for poor efforts.

2.4. Shortcomings of transformational leadership theory

Although several IT leadership studies have used the transformational model, it has some serious shortcomings as a tool for examining BPR behavior. This framework does not examine the leaders’ roles in facilitating teamwork and interactions between interested parties so that common goals are accomplished.

Yammarino and Dubinsky [56] feel that transformational leadership is “only in the eyes of the beholder”. Therefore, there may be very little agreement from team members on the transformational attributes of their leader. These authors only find evidence of transformational leadership at the individual level of analysis, not at the dyads-within-groups level, the between-dyads level, or the differences between dyads within groups.

Moreover, there is a high intercorrelation between the facets of transactional and transformational leadership [54]: it is difficult to differentiate the leadership characteristics for successful BPR projects from those of unsuccessful projects. Then we can hardly predict the success of a BPR project based on transformational leadership because it is too difficult to measure this leadership.

Lastly this transformational leadership model assumes the transactional leader has line management authority for dispensing rewards and punishments which is not true for many BPR projects that often use ad hoc, cross-functional teams composed of people with different line managers. Therefore, another framework may be more appropriate for research on the relationship between leadership and innovations enabled by information technology, such as BPR.

3. Theoretical framework

To overcome these difficulties, this study applies a leadership framework proposed by Flamholtz. Drawing on contingency theory, his Leadership Effectiveness (LE) framework is based on the idea that no single style is effective in all situations; the situation determines the style that will most likely be effective. The LE framework is shown in Fig. 1.

This framework has several advantages. It does not assume that some leaders’ only way of influencing behavior is contingent rewards. Likewise, it does not assume that personal traits such as charisma and intellectual stimulation are essential prerequisites for effective leadership. Rather, it looks at the behavior of leaders in the *tasks* they perform, in the *style* they use, and the pertinent *situational factors* in which they operate. It draws from several tested traditional research streams: leadership styles [36,51], leadership tasks [5], situational leadership, and contingency leadership.

3.1. Situation-style fit

The LE framework argues that there are six styles of leadership on a continuum. The basis of the continuum is the amount of freedom that the leader grants others in making decisions. These six styles aggregate into three style categories: directive, interactive, and non-directive (Table 1).

The LE framework also asserts that there are two types of situational factors: the degree of task programmability coming from the ‘work’ and potential for job autonomy from the ‘people’. The degree of *task programmability* is the extent to which a work

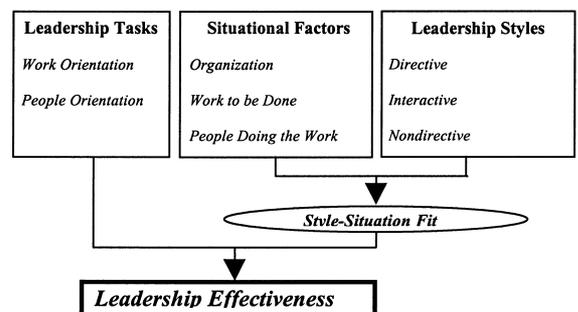


Fig. 1. The Flamholtz leadership effectiveness framework.

Table 1  
The leadership styles and categories

Category	Style	Definition
Directive	Autocratic	Declares what is to be done without explanation.
	Benevolent autocratic	Declares what is to be done with an explanation.
Interactive	Consultative	Gets opinions before deciding on the plan presented.
	Participative	Formulates alternatives with group, then decides.
Nondirective	Consensus	All in the group have equal voice in making decisions.
	Laissez-faire	Leaves it up to the group to decide what to do.

task can be specified prior to its execution. The *potential for job autonomy* is the extent to which someone can work without supervision. The actor's skill and education level, the motivation level, and the desire for independence all influence that person's potential for job autonomy.

Studies have shown that when the degree of task programmability is low (difficult to specify) and the potential for job autonomy is high (capable of working independently), a nondirective style of leadership is most effective (Table 2). Conversely, when the task programmability is high (easy to specify the task's optimal execution) and the potential for job autonomy is low (little desire or ability to work independently), then a directive style of leadership is most effective. Under other situations the interactive style is most effective.

Flamholtz hypothesized that the situational factors of potential for job autonomy and task programmability explain 80–90% of the style-situation fit, a critical factor in leadership effectiveness. Therefore, it is hypothesized that leaders, or champions, of successful reengineering projects have a better style-situation fit than leaders of unsuccessful projects.

**H1:** There is significant difference in the style-situation fit of successful BPR leaders and unsuccessful BPR leaders.

Table 2  
Factors affecting optimal leadership style

Task programmability	Potential for job autonomy	
	Low	High
High	Directive	Interactive
Low	Interactive	Nondirective

### 3.2. Key leadership tasks and their orientations

The LE framework assumes that there are five leadership tasks: goal emphasis, task facilitation, interaction facilitation, supportive behavior, and personnel development. Table 3 shows how the task categorization applies to typical BPR implementation problems that Grover et al. reported.

In addition, these five tasks can be divided into two orientations: work orientation and people orientation. The first is geared towards the work to be done (goal emphasis and task facilitation). The second is geared towards the needs of the people doing the work (interaction facilitation, supportive behavior, and personnel development). Both orientations are present in effective leaders, on the basis of Hemphill and Coons [25] as well as Bowers and Seashore; i.e., for optimal performance the emphasis placed on the performance of leadership tasks is split between the two types. When leaders handle problems by performing leadership tasks in both orientations, they reinforce their influence on those being lead. An indirect indication is that many of the BPR problems could be influenced by leadership tasks of both orientations. Thus:

**H2:** There is significant difference in the emphasis successful BPR leaders place on the task and people dimensions (orientations) and the emphasis unsuccessful BPR leaders place on the dimensions.

### 3.3. Consistency of leadership behavior

Many studies (e.g. Popoff and Brache) have stressed the need for committed leadership by the champion. Lack of consistent leadership behavior is cited as a major cause for failure. Several problems were probably caused by inattention prior to the BPR installation stage. Such a problem is "Failure to

Table 3  
BPR implementation problems with their associated leadership tasks

Problem	Task <sup>a</sup>	Rationale
Need for managing change not recognized [1,49]. Rigid hierarchical structures in the organization [7,8,9,55]	GE, TF, IF, SB, PD TF, IF	All the various leadership tasks were not consistently and effectively performed. If BPR leader cannot facilitate the attainment of necessary resources (TF), and cannot lead the effort in facilitating interaction between the parties involved (IF), then the traditional hierarchical structures will be used instead.
Line managers in the organization unreceptive to innovation [8,28].	GE, IF, SB, PD	If the line managers do not understand the goals (GE) or how their functions must change (IF and SB) or how their careers are affected (PD) then the line managers may well be unreceptive.
Failure to anticipate and plan for the organizational resistance to change [10,20,6,22,55].	GE, IF, SB, PD	When the leader does not emphasize the goals of BPR (GE), facilitate interactions between the stakeholders (IF) to lessen resistance, initiate mechanisms for feedback to lessen resistance (SB) and/or discuss how careers can be affected by BPR, a failure to anticipate and plan has occurred.
Lack of alignment between corporate planning and IT planning [7,9,39,44].	IF	When the leader does not facilitate communication between corporate planning and IT planning, then a lack of alignment may occur (IF).
Failure to consider politics of business reengineering efforts. [20,38].	IF, SB, PD	If the leader does not facilitate communication with various stakeholders (IF/SB) and does not communicate how various stakeholders' careers can be affected (PD), then the leader could be failing to consider political realities.
Uncertainty about business reengineering time frame [48].	GE	When the leader fails to communicate the goals effectively, or fails to have specific, measurable goals established, then uncertainty about the time frame can occur.
Lack of top management support in business reengineering efforts [18,48,9].	GE, TF, IF	The team was unable to get the resources it needed because the champion did not get top management support. Top management did not support the BPR goals consistently. Communications to top management were not facilitated properly.
The business reengineering efforts took too much time [22].	GE, TF	If the goals are vague and/or difficult to assess (GE), or the needed resources are not acquired (TF), then the efforts can take too much time.
Failure to build support from line managers [24].	GE, IF, SB, PD <sup>b</sup>	When goals are not communicated effectively (GE) to line managers. Inadequate communication exists with line managers (IF). Inadequate feedback from managers exists (SB). Line managers are unaware of any effects that BPR can have on their careers (PD). Any can result in leader failing to build support from line managers.

<sup>a</sup> GE: Goal emphasis; TF: Task facilitation; IF: Interaction facilitation.

<sup>b</sup> SB: Supportive behavior; PD; Personnel development.

anticipate and plan for organizational resistance to change (Table 3)".

Therefore, it is hypothesized that successful leaders, or champions, perform leadership tasks at a consistently higher level throughout the BPR project. Less successful leaders do not.

**H3:** There is significant difference in the consistency of leadership task performance between successful and unsuccessful BPR leaders.

#### 4. Method

To test the framework, I conducted a case study in BPR projects at a securities firm in California prior to survey administration. Then data were collected from 30 BPR projects using a survey questionnaire.

##### 4.1. Survey instrument development and validation

The instruments were modified from previously validated instruments. These modified instruments were pre-tested and fine tuned with volunteers from an executive MBA program and at the case study site.

The questionnaire has three sections that looks at where the behavior took place, the leadership behavior, and the consistency of that behavior.<sup>2</sup> The first part deals with the BPR project, the respondent and the organizational setting. The validated Shabana [47] BPR questionnaire is the basis for this section. The second part deals with leadership behavior using a forced choice format based on the validated Flamholtz Leadership Effectiveness Questionnaire [46]. Here the respondent compares two statements that describe the targeted leader's behavior and chooses the statement that more accurately describes the behavior experienced by the respondent. The last and third part deals with leader's involvement on the BPR project. Pretests of the survey instruments validated their appropriateness.

##### 4.2. Selection criteria

For the purpose of the study, I used three criteria for selecting BPR projects. First, it must have been com-

pleted. The study requires the outcomes to measure the project's success, or the change in productivity measures. It is important to note that premature termination of BPR projects is most likely to prevent accurate outcome measurements. Second, it must have had a recognized leader, because some BPR projects do not have any leader. Finally, the organization that implemented it must have declared at least one clear, measurable goal at the beginning in order to assess the effectiveness of the BPR outcomes against the goal. Some did not and were discarded.

##### 4.3. Sampling procedure

This study used two-tiered sampling procedures (e.g. Kirsch [34]). It first sought to identify the BPR projects that met the three criteria. There were two sources: (1) 2000 randomly selected IT executives who subscribed to an IT-oriented magazine, and (2) two academically sponsored Internet mailing lists. The first source provided 63 potential survey participants, and the second gave 71 potential participants. In both the cases, people were asked to respond only if they believed they met the criteria. Yet a number of respondents in the first group responded when in fact they were not qualified — the project was not yet completed (15 cases), the outcome measures were still unknown (18 cases), and the organization failed to declare any measurable goals at the beginning (8 cases). By removing these 41 cases, 22 qualified potential survey participants out of 63 cases remained.

##### 4.4. Survey distribution

Then I distributed a survey questionnaire to those who responded. The study obtained six usable responses out of 22 contacts from the first source (response rate of 27.3%), and 31 responses out of 71 contacts from the second source (43.7%). Among the latter 31 responses, however, I found seven 'disqualified' cases in which the respondents replied to the survey by providing 'anticipated' BPR outcomes or having no BPR goals.<sup>3</sup> This left 24 usable responses with a 33.8% usable response rate from the second group.

<sup>3</sup>Probably the people who responded through e-mail had read the survey invitation message rather hurriedly.

<sup>2</sup>A copy of the instrument is available upon request.

Of these 30 responses, 14 were from the North American continent, 8 from Europe, and the remaining eight from the Pacific region. The average team size of the BRP projects was 14.9. At the time of the study, the respondents had been with their firm, on average, for 7.1 years; the majority held senior manager's positions or above. These respondents were also from a variety of industry sectors (manufacturing 23%, services 16%, general trade 10%, construction 7%, transportation 7%, and other 37%). In terms of firm size, 20% of the sample were from very large firms with more than 5000 full-time employees and more than \$1 billion in annual revenues. Yet, approximately half of the projects were from smaller firms with less than 500 full-time employees and less than \$50 million in annual sales.

#### 4.5. Measurement of variables

Appendix A shows the operationalization of the variables. The dependent variable of this research is *BPR outcomes*. This research uses the degree of target attainment to measure the BPR outcomes, as BPR emphasizes having measurable goals. The perceived level of success method does not necessarily correlate with actual performance levels [19]. Because the failure rate of BPR projects is so high, I assess the degree of BPR success (i.e. BPR success) at two levels: the attainment of overall BPR goals (comprehensive measurement) and the attainment of primary BPR goals (prioritized measurement).

The independent variable for H1 is the *style-situation fit*. It is assessed by the discrepancy between (a) the proportion among directive, interactive and non-directive leadership styles actually used (style profile), and (b) the proportion of styles that the job autonomy and task programmability of BPR tasks dictate (situation profile) as hypothesized by Flamholtz. The style profile is calculated by summing the number of responses on the Leadership Effectiveness Questionnaire that indicated a leader's preference for executing leadership tasks in the *directive*, *interactive* or *non-directive* style. Because the questionnaire uses a forced choice format, a relative ranking of the leadership styles becomes known. This profile shows the mix of styles that a particular leader uses and prefers.

The situation profile measures the responses on the BPR team members' *potential for job autonomy* and

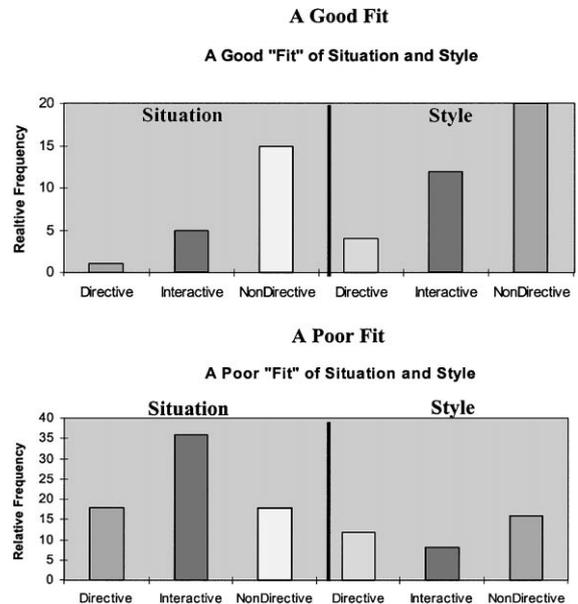


Fig. 2. Examples of 'Fits'.

the *degree of task programmability*. The interest here is to measure how much in the situation is optimally handled by each of the styles: the directive, non-directive, and interactive styles. Graphical representation of the fit concept is shown in Fig. 2. In visual terms, the closer the shapes of the profiles resemble one another, the better the fit.

The *balance* between task and people orientations for H2 is calculated by the relative increase in time spent by the leader on task rather than on people management. The Orientation Balance score indicates the degree of equilibrium between the two orientations. The closer a leader reaches perfect equilibrium in executing leadership tasks, the more effective the leader. An imbalance in either direction, towards task or towards people, is predicted to lower effectiveness.

Finally, the *consistency* of leadership task types for H3 is determined by using a factor analysis on the tasks the BPR leader actually performed, split into three types: 'coach', 'coordinator', and 'counselor'. Coach includes the leader's roles as a communicator of the BPR vision and goals, as a facilitator for obtaining resources, as a cheerleader for encouraging the team members, and as a friendly mentor giving positive feedback. Coordinator includes the leader's roles as the arbiter of conflicts, as a coordinator of

Table 4  
Descriptive statistics of main variables mean, standard deviation, zero-order correlation ( $n = 30$ )

Variable	Mean	Std Dev	BPRALL	BPRFST	FIT	BALANCE
BPRALL	1.112	0.538	–	–	–	–
BPRFST	1.125	0.557	0.665	–	–	–
FIT	0.640	0.302	0.340	–0.332	–	–
BALANCE	–4.200	3.468	–0.365	–0.459	–0.224	–

team activities, and as a facilitator for internal team communications. Counselor includes the leader's roles as a critical judge giving corrective feedback, as a judge discussing the impact of BPR on the entire team and on each member's career opportunities and personal growth. All constructed factors have Cronbach alpha's exceeding 0.75, which indicates a high level of construct validity [33,40].

## 5. Results

Table 4 presents the descriptive statistics for the variables and their zero-order correlations.

**Hypothesis 1.** Simple regressions were run to test the first hypothesis that the better the *style-situation fit* (LOGFIT) then the greater the BPR success, when it is measured by the attainment of goals. The results support the hypothesis with  $\beta = 0.39$  at  $\alpha < 0.05$  when the BPR outcome is the attainment of overall BPR goals (BPRALL). When the primary BPR goal is the dependent variable (BPRFST), the hypothesis is also confirmed but not at the conventional levels with  $\beta = 0.36$  at  $\alpha \leq 0.10$ . Thus H1 was supported.

**Hypotheses 2.** Again simple regressions were used to test the hypothesis that the greater the *balance* between attention to meeting the needs of the work and the people (BALANCE) results in greater BPR success. Here the balance is between executing leadership tasks oriented towards the people doing the work and those oriented towards the work itself. Either measure for BPR success, BPRALL or BPRFST, is significant, confirming H2. When the overall attainment of BPR goals (BPRALL) is the dependent variable, BALANCE is significant ( $\beta = -0.365$ ,  $t = -2.07$ ) at  $\alpha \leq 0.05$ . When the primary BPR goal (BPRFST) is the dependent variable, BALANCE is even more significant ( $\beta = -0.459$ ,  $t = -2.74$ ) at  $\alpha \leq 0.01$ .

Since both Hypothesis 1 and 2 were confirmed, the next step was to see if BALANCE and LOGFIT together were significant in explaining BPR success. Regressions were estimated using each alternative measure of BPR success (BPRALL and BPRFST) as the dependent variables, including both the degree of style-situation fit (LOGFIT) and the balance between work and people (BALANCE) as explanatory variables. Table 5 reports the results, which support the Flamholtz framework. Both alternative measures for BPR success outcome were used. When BPRALL is the dependent variable, LOGFIT ( $\beta_1 = -0.317$ ,

Table 5  
Results from oriented balance and style-situation fit analysis

The weighted attainment of BPR goals	DV= BPRALL
LOGFIT	$\beta_1 = -0.317$ , $t = -1.81$ , ( $p < 0.081$ )*
BALANCE	$\beta_2 = -0.285$ , $t = -1.63$ , ( $p < 0.114$ )
$F_{1,28} = 3.97$ ( $p < 0.031$ )**	$R^2 = 0.23$ , Adj- $R^2 = 0.17$
The attainment of the primary BPR goal	DV = BPRFST
LOGFIT	$\beta_1 = -0.256$ , $t = -1.51$ , ( $p < 0.142$ )
BALANCE	$\beta_2 = -0.395$ , $t = -2.33$ , ( $p < 0.028$ )**
$F_{1,28} = 5.06$ ( $p < 0.014$ )**	$R^2 = 0.27$ , Adj- $R^2 = 0.22$

\* Significant at  $\alpha \leq 0.10$ , \*\*: significant at  $\alpha \leq 0.05$ , \*\*\*: significant at  $\alpha \leq 0.01$

$t = -1.81$ ) at  $\alpha \leq 0.10$  is the only significant variable yet when BPRFST is the dependent variable then BALANCE is the only significant independent variable ( $\beta_2 = -0.395$ ,  $t = -2.33$ ) at  $\alpha \leq 0.05$ .

**Hypothesis 3.** For testing H3 (*leadership task consistency*), multiple regressions were run using the three independent variables ('coach', 'coordinator', and 'counselor') against BPR success. The results were not significant, thereby not supporting H3.

In summary, the results favored both the style-situation fit hypothesis and the task execution balance hypothesis. They, however, rejected the leadership task consistency hypothesis.

## 6. Discussion

### 6.1. The style-situation fit

Of particular interest is the observation by leading BPR researchers that BPR is a top-down, directed phenomena. In terms of the Flamholtz framework, these observations imply that the leadership tasks of goal emphasis and task facilitation are done in a directive leadership style on successful projects. In other words, the leader directed what the goals are, when the goals should be completed, who has responsibility for the goals, and monitors their performance. Similarly, the leader determines what resources are needed to accomplish the goals and makes sure that the team receives them. No evidence was found that supported the view of BPR as requiring a directive leadership style. No pattern emerged where successful BPR projects were related to leaders using more directive leadership style for the work oriented leadership tasks than for people oriented leadership tasks.

Indeed, both the average profile of *styles* used and the average profile of the *situational factors* leaned heavily towards the non-directive. Thus, there is some evidence that leaders instinctively understood that a reliance on non-directive styles was appropriate for the situation.

There was a difference in the influence that 'fit' has on the primary BPR outcome (BPRFST) and the overall BPR outcome (BPRALL). If 'fit' had an equal effect on all aspects of the BPR, then one would see the same significance for both regressions. Instead,

LOGFIT attained significance at conventional levels for BPRALL but not for BPRFST. This may indicate that Fit impacts on all the goals of the BPR in the long term, while in the short term, more attention is usually paid to the primary goal. Given the small sample size, however, this difference may be due to random error.

### 6.2. Balance between work and people orientations

While the relationship between leadership task balance (BALANCE) and overall BPR goal attainment (BPRALL) was significant, the relationship between BALANCE and primary BRR goal attainment BPRFST was even more robust. This is the opposite effect from what was found in the Fit relationship to BPR outcomes. If BPRFST reflects not only the first or primary BPR goal but also the shorter term goals of the BPR, then the balance of task execution has both short-term and long-term effects. Its influence is stronger in the short term and then gradually declines over time.

Why is this the case? In the beginning of the BPR, leaders need to establish and set up mechanisms for monitoring the goals and obtain any needed resources. As the BPR progresses, these leadership tasks do not need to be emphasized as much. Therefore, the balance of work oriented to people oriented tasks may become skewed over time. The effect of BALANCE is then felt more strongly on the primary BPR goal than it would be on the overall BPR goal.

The Flamholtz framework predicts that the closer a leader comes to an equal balance in emphasizing the work and people orientations of leadership tasks, the greater the effectiveness. In this sample, however, the average leader placed far more emphasis on the work oriented tasks. In particular, more emphasis was placed on goal emphasis with an average of 11.17 against a score of 9.00 for a truly balanced orientation. The variance, nevertheless, is greater for goal emphasis (s.d. = 4.58) over the other four tasks, this indicates less consensus about how much goal emphasis is needed. Task facilitation has an average of 9.83 against the ideal score of 9.00.

Among the people oriented tasks, the average scores for interaction facilitation are closest to balanced. This confirms that most BPR leaders manage conflicts most of the time, as well as making sure the team works well together.

Nonetheless, for the people oriented tasks, the average leader in the sample emphasized interaction facilitation more strongly than either supportive behavior or personnel development. One would have thought that supportive behavior (positive and corrective feedback) would be strongly emphasized. Yet, the average was only 4.93 in contrast to the ideal, 6.00.

This lower than ideal average may be due to the non-programmability of the BPR work tasks. The midpoint for task programmability is 3.00 whereas, in this sample, the average for task programmability was 4.00. This indicates that the average BPR project's work was characterized as non-routine, or non-programmable. Perhaps, leaders were reticent to comment on a team member's work when no clear-cut standards for performance are known.

The lack of emphasis in personnel development tasks is more understandable. While the ideal score is also a 6.00, the average was only 4.30. The BPR leader may well be unsure of how BPR will impact a person's career and the leader may be uncomfortable in discussing these issues.

### 6.3. Leader involvement effort

No evidence was found to support H3 that successful BPR leaders more consistently perform all the leadership tasks than unsuccessful leaders. However, when examined more closely, it is clear that leader involvement is probably more complex than that captured in the survey. Possibly, leader involvement is critical only at some stages of the BPR project.

In addition, there may be the problem of bias in reporting after the fact. For example, the mean for the statements dealing with encouraging team members and giving positive feedback had a mean of 4.10 and 4.06, the orientations which indicates that these tasks were done often. In contrast, the mean for supportive behavior from the forced choice Leadership Effectiveness questionnaire is 4.93 which indicates less than balanced emphasis. It is difficult to see how these tasks could have been performed often yet did not get average emphasis.

### 6.4. Impact of goals per project

In the everyday world of business, one truism is that lack of focus results in failure. Then one could wonder

if the lack of success for so many BPR projects was due to organizations 'taking on too much'. Here was an opportunity to test that supposition on an informal basis.

From this sample, no evidence was found to suggest that the number of goals has any significant effect on the BPR success. Regressions were run on both BPR outcome measures with the number of goals as the explanatory variable. Neither BPRALL nor BPRFST was found significant.

### 6.5. Impact of leaders per project

The literature describes a number of different types of leaders found on BPR projects. In the mail phase this study asked respondents for the names of the leaders on their BPR project. Out of 62 preliminary responses,<sup>4</sup> not one indicated more than one leader. Furthermore, of the 30 BPR projects I analyzed, approximately half are projects with less than 10 members. Such small BPR projects often have only one leader.<sup>5</sup> There was little need for multiple levels of leadership; one, overall BPR leader is sufficient.

### 6.6. Framework extension

This study found evidence to support extending the Flamholtz Leadership Effectiveness framework into radical change environments. Thus, while past research emphasized the traits, or attributes, of transformational leaders, there is a relationship between how leaders behave and successful change management. Apparently for BPR, line management authority is not a critical factor.

## 7. Conclusions

The major conclusions are: (1) successful BPR leaders employ leadership *styles* that fit better the critical situational factors; and (2) successful leaders of BPR projects perform their leadership *tasks* in a reasonably well balanced manner.

<sup>4</sup>This data was collected during the first phase of the two-tiered sampling.

<sup>5</sup>In those cases, the respondents were BPR members. However, the *F*-test on variables used showed that there were no significant differences between leader respondents and member respondents.

This study has several limitations. First, it involved only a small sample. Second, the study’s findings may not be generalizable to situations where there are multiple leaders on a BPR project. Third, because this study asks informants questions on events that had already occurred, thus its results depend on the memories of the informants with all the inherent informant biases that this implies.

This study provides several contributions to theory. It extends leadership theory into today’s business environment where higher-order change is desired. This study confirms that a relationship exists between effective leadership as the Flamholtz framework defines it and the successful outcome of a higher-order change. A second contribution is the operationalization of the Style-Situation Fit construct. This was previously untested and could not be examined using recognized statistical methods. The develop-

ment of this construct is important because it opens up more areas of organizational theory to empirical testing. A final contribution to theory is the lack of support for consistency of leader involvement affecting BPR outcomes (H3). This study operationalized the level of leader involvement as a series of statements on the level of involvement in executing various leadership tasks. Yet, no significant relationships were found.

This research supports the premise that leaders play a critical role in affecting BPR outcomes. It has long been known that leaders can literally ‘make or break’ a BPR project. What has been lacking for practitioners is a set of useful guidelines that show leaders the steps they need to take for a successful project. What has been lacking is a set of measures for operationalizing the fit concept in the Flamholtz framework. This study provides such a construct.

## Appendix

### Operationalization of the variables

Variable	Operations	Reference
Overall BPR Target Attainment <b>BPRALL</b>	The weighted average of all the target goals for the BPR project $BPRALL = \Sigma(\text{WEIGHT}^a \text{ATTAINED}/\text{TARGET})$ WEIGHT: % based on the rank of BPR goals (see GOAL below) ATTAINED: actual performance level TARGET: planned performance level	[19]
Primary BPR Target Attainment <b>BPRFST</b>	the target attainment for the primary BPR goal $BPRFST = \text{ATTAINED}/\text{TARGET}$ ATTAINED: actual performance level TARGET: planned performance level	[19]
BPR Goals <b>Goal</b>	BPR goals are categorized as: cost reduction; cycle time reduction; customer satisfaction increase; worker productivity increase; defects reduction; other goals not listed above. Then, the following measures are taken: Rank; actual performance level; planned performance level;	[8,18,39]
Style-Situation Fit <b>FIT</b>	$FIT =  \text{FITDIRINT}-\text{SFITDIRINT} + \text{FITINTNDIR}-\text{FITINTNDIR} $ where: FIT: level of fit where 0 = perfect fit, the larger the FIT, the more misfit.) $\text{FITDIRINT} = (\text{INTERACT}-\text{DIRECT}) \div (\text{DIRECT} + \text{INTERACT} + \text{NONDIRECT})$ $\text{FITINTNDIR} = (\text{NONDIRECT} - \text{INTERACT}) \div (\text{DIRECT} + \text{INTERACT} + \text{NONDIRECT})$	[15,16,13]

## Appendix (Continued)

Variable	Operations	Reference
	$\text{SFITDIRINT} = (\text{INTERSIT} - \text{DIRECTSIT}) \div (\text{DIRECTSIT} + \text{INTERSIT} + \text{NONDIRECTSIT})$ $\text{SFITINTNDIR} = (\text{NONDIRSIT} - \text{INTER-SIT}) \div (\text{DIRECTSIT} + \text{INTERSIT} + \text{NONDIRECTSIT})$ INTERACT: # of interactive leadership style used DIRECT: # of directive leadership style used NONDIRECT: # of nondirective leadership style used INTERSIT: scores indicating that situations were interactive DIRECTSIT: scores indicating that situations were directive NONDIRSIT: scores indicating that situations were nondirective	
Balance between Orientations <b>BALANCE</b>	$\text{BALANCE} =  \text{WORKTASKS} - \text{PEOPLETASKS} $ where WORKTASKS: # of statements that indicated the Goal Emphasis (GE) and Task Facilitation (TF) performance by the leader. PEOPLETASKS: # of statements that indicated the Interaction Facilitation (IF), Supportive Behavior (SB), and Personnel Development (PD) performance by the leader.	[15,16,26]
Frequency of leadership behavior <b>Factor1 ‘coaching’</b> $\alpha = 0.875^a$	Indicate how frequently the leader was involved in:  Item 1—communicating the BPR vision and goals Item 2—getting support for BPR Item 6—encouraging team members Item 7—giving positive feedback (5-point Likert Scale: 1 = never, 5 = very often)	[42]
Frequency of leadership behavior <b>Factor2 ‘coordination’</b> $\alpha = 0.793$	Indicate how frequently the leader was involved in:  Item 3—resolving conflicts Item 4—coordinating team activities Item 5—setting up effective communications for the team (5-point Likert Scale: 1 = never, 5 = very often)	[42]
Frequency of leadership behavior <b>Factor3 ‘helping judge’</b> $\alpha = 0.820$	Indicate how frequently the leader was involved in:  Item 8—giving corrective feedback Item 9—discussing BPR impact on team Item 10—discussing team’s future career paths Item 11—discussing team’s potential, personal growth (5-point Likert Scale: 1 = never, 5 = very often)	[42]

<sup>a</sup> Cronbach’s  $\alpha$

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**Norma Sutcliffe** is Visiting Assistant Professor at DePaul University in Chicago. She holds a Ph.D. in MIS and an MBA from the University of California, Los Angeles. She has extensive industry experience as an information systems consultant. Her primary research interests are in IS management, IS leadership, outsourcing, IT impacts on organizations, and IS development and implementation methodologies.