CHAPTER 4: RESULTS

4.1 Different types of users have different reasons for resistance

4.1.1 Reasons of resistance

The ranked results of reasons for resistance are summarized in Table 4-1 and Table 4-2, with no new items suggested. As is shown in the radar graph (Figure 4-1), managerial and operational users resist ES for different reasons. Operational users resist it for varying reasons across all resistance categories, while managerial users resist ES mainly due to misunderstanding of its implementation and different assessment of system benefits. The top three reasons for operational resistance are (1) need to spend more time and efforts on work, (2) loss of autonomy or increased monitoring, and (3) Insufficient knowledge about the new system. Other factors were frequently mentioned, such as fear of learning higher skills, loss of job or skills, disagreement that the system will bring benefits. The top three reasons for managerial user resistance were (1) belief that decision-making experience cannot be replaced, (2) disagreement that the system will bring benefits, and (3) insufficient knowledge about the new system. Misunderstanding the implementation process and the fear of learning higher skills were also mentioned by several interviewees.

Table 4-1: Scores of reasons for resistance

Managerial Activities	Managerial	Operational
R1: Loss of power and status	**2.42**	**2.50**
R2: Loss of job or special skills	**2.33**	**3.67**
R3: Loss of autonomy or increased monitoring	**2.50**	**3.83**
R4: Insufficient knowledge about the new system	**3.33**	**3.83**
R5: Misunderstanding the implementation process	**3.17**	**3.33**
R6: Disagreement that the system will bring benefits	**3.50**	**3.58**
R7: Belief that decision-making experience cannot be replaced	**4.25**	**2.67**
R8: Fear of learning higher skills	**3.00**	**3.67**
R9: Role conflict and altered relationships	**2.67**	**2.50**
R10: Need to spend more time and effort on work	**2.67**	**4.17**

According to the observations of interviewed project managers, many managerial users are resistant to ES because they do not believe that it can bring benefits. They are usually confident about their own ability to make decisions and have no patience with searching through the

Figure 4-1: Radar graph -Reasons of resistance by different types of users
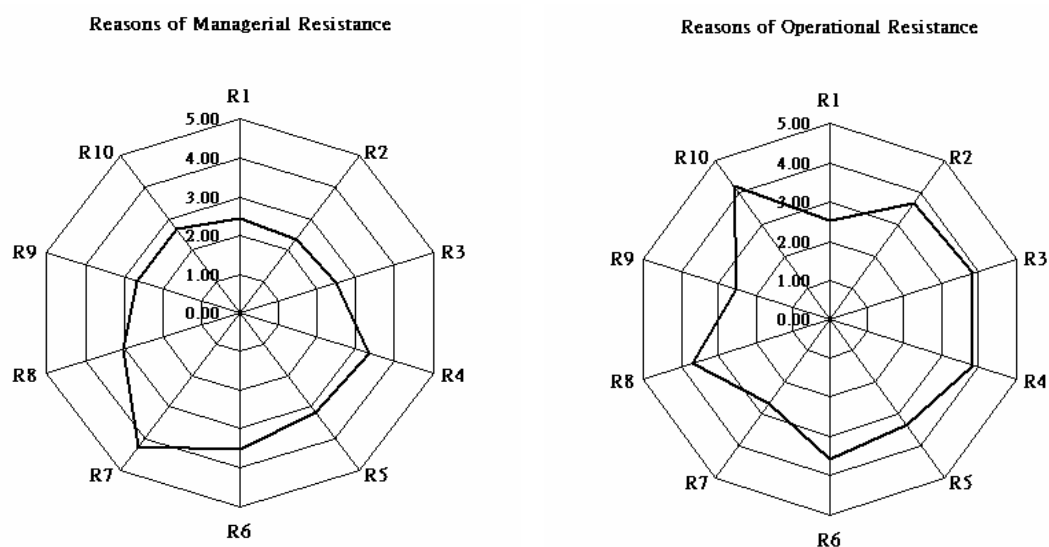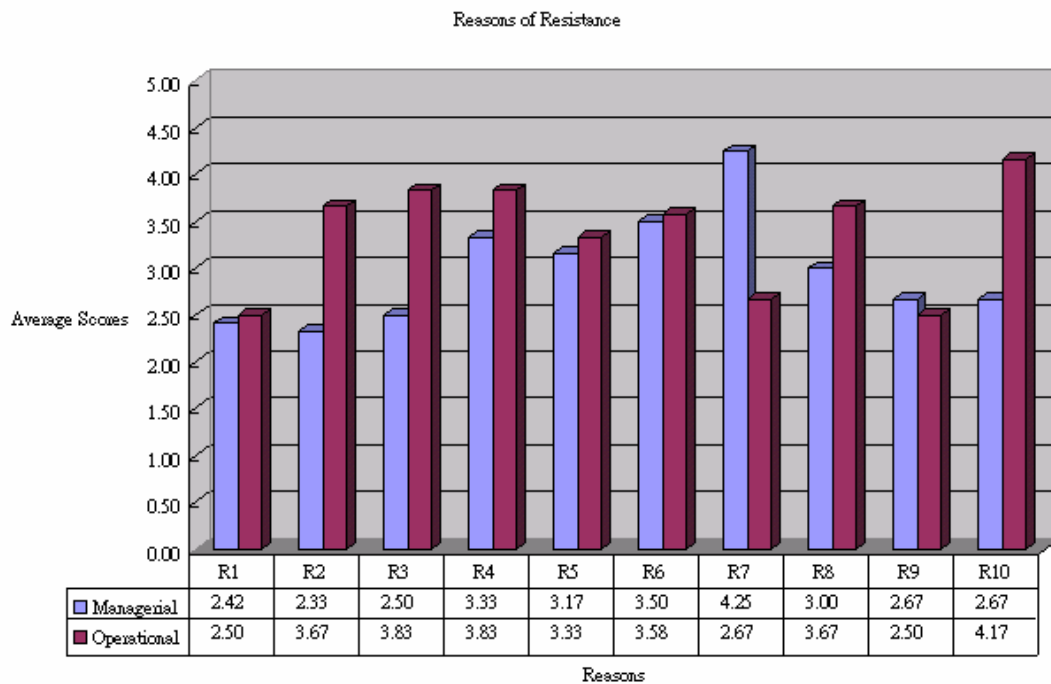

complicated reporting functions. To some managers, ERP reporting systems are faulty, generate too many unnecessary report for them to review, and managers cannot set up their own formats. Most of them still ask the MIS department or secretaries for special reports instead of using the system on their own. In light of their difficulties in managing work overload in the long system implementation stage, managers tend to distrust the assurances of external consultants on the benefits to flow from change.

"Managers usually reject the system benefits before they are really realized!" (Interviewee 4)

Managers believed that the success of decision making depended on their own brain, not the system. For example, financial managers regarded excellent financing as the result of their good relationship with bankers, which is something that could not be replaced by the software. At the purchase department, managers considered the system as merely a recorder of purchasing prices, but did not take advantage of analyzing vendor prices and quality. In a food factory, demand forecasting still depended on two of their senior managers' experiences. They did not believe the situation would be any different with the new ERP system.

When talking about system benefits, some managerial users tended to emphasize the additional workers needed for data entry and the IT professionals needed for maintaining the ERP system. These factors were seen as immediately cost-ineffective before any benefits were realized.

Many interviewees mentioned that the complexity of the coding of new products or materials has become a big problem to managers in Taiwan. ERP systems provide much more categories for users to maintain their account items. However, managers were used to identify items with

Figure 4-2: Comparison of average scores in reasons of resistance

Reasons of Resistance

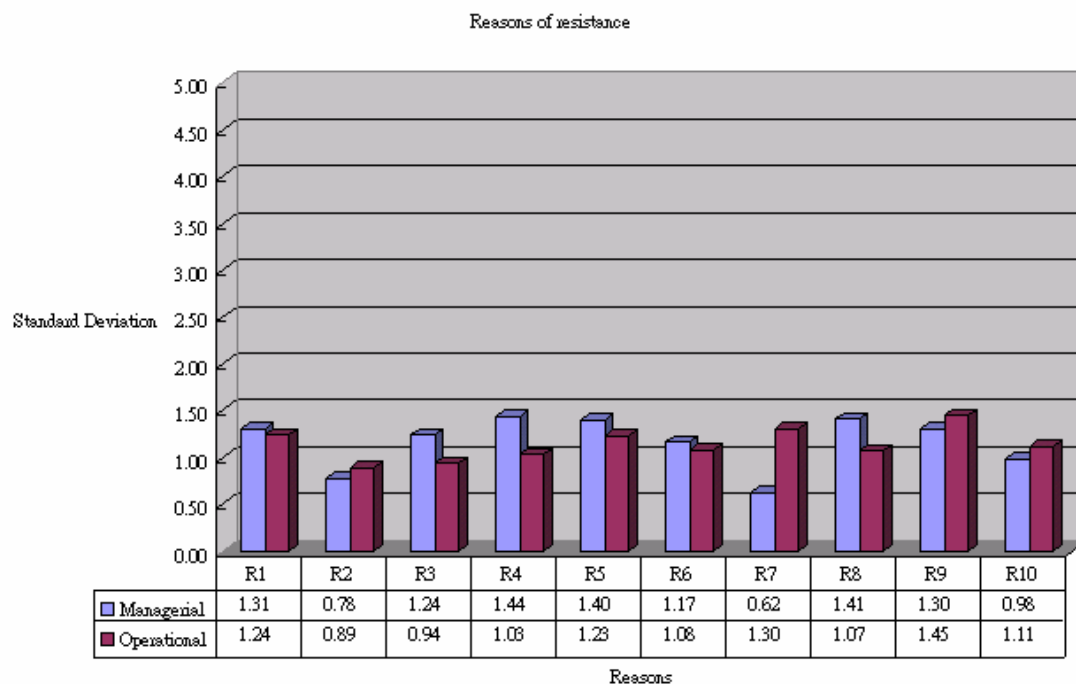| Average Scores	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Managerial	2.42	2.33	2.50	3.33	3.17	3.50	4.25	3.00	2.67	2.67
Operational	2.50	3.67	3.83	3.83	3.33	3.58	2.67	3.67	2.50	4.17

Reasons

their old item numbers, not the complicated hierarchy of codes. Some did not know how to code their items correctly, or were unwilling to spend additional time recoding for they did not believe it was worthy of doing so. Therefore, for marketing and sales managers, systems provided little benefit to them.

"They thought that the success of marketing depends on their "brain", and sales on their "mouth"." (Interviewee 8)

For many accounting managers, monthly weighted average costing was used instead of the standard costing provided by the package. There were no special reasons for this but only because of users' familiarity with the old formula.

System customization was another concern: busy managers were confused by the complexity of the system rules. Managers did not know how to express their needs in system customization and were despondent after numerous communications with the consultants. Additionally, many managers believed that no system would be able to replace their current practice. A factory in China of one manufacturing company refused to implement an ERP system because managers believed that their working processes were the best, and they resisted redesigning their process to adapt to the new system, which had been implemented over all departments of the company

Figure 4-3: Standard deviation of scoring within different interviewees

Reasons of resistance

	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
Managerial	1.31	0.78	1.24	1.44	1.40	1.17	0.62	1.41	1.30	0.98
Operational	1.24	0.89	0.94	1.03	1.23	1.08	1.30	1.07	1.45	1.11

Reasons

in Taiwan. With a complicated cross-strait managerial structure, politics and power status were playing a more critical role in the change. Consequently, change has not yet been fully implemented because they did not believe that Taiwanese configured system process is better than their current processes.

Another reason for managerial resistance is insufficient knowledge about the new systems. Managerial users do not use computers as frequently as operational users do, which leads to less familiarity with the system. These users are not used to logging on to the system and retrieving reports themselves; they se secretarial assistance or email requests as much easier ways to solve the problem. Furthermore, bring about the fear of learning higher skills.

"Some managers complained about the inconvenience of using the system. They often asked, "Is there no other ways of generating the report? Can't it be simple enough for me to do it by myself without the assistance of my secretary?" " (Interviewee 4)

On the other hand, many managers did not care about which systems generated the reports, because "learning new processes is disturbing". (Interviewee 12) They were also afraid of their skills being replaced by the software and losing job for the future lean workforce.

The most important reason for operational resistance is additional time and effort required.

This item was highly ranked by all interviewees.

Key users in a high-tech company in the industrial park in Taiwan complained about spending an extra 60 percent of their already fully-booked time on data entry and working late at night every day. This, along with the increased control checks, upset users.

In an enterprise system every single step is cross-checked to assure consistency among different processes, which can be quite different from previous operations.

For example, in record alteration, users used to make corrections via a notice, a telephone call or a fax. The new system forced them to check every step and record every movement. To new users, processes were always disrupted by error messages and complex steps to correct the data. To experienced users, their daily activities were overseen by the system, inputs were recorded, and productivity was reviewed as frequently as managers desired.

"We designed only six fields on the screen in the favor of marketing and sales users because they refused to use the new system and insisted on working in the old way. They preferred to have a system looking exactly like their old one on Excel" (Interviewee 8)

"How can I get so many phone calls after the system was implemented? These calls were used to be my manager's work in their daily meetings." (Interviewee10)

When systems revealed more information across departments, users could solve their problems directly with key persons. However, not every staff in the factory enjoyed answering questions, especially non-managerial use*r*s. It used to be managers' job to coordinate these problems. Operational users did not like to be over empowered for these extra responsibilities.

"After the system was implemented, the production department could access the data online and call sense the problem immediately, as well as call for answers directly the responsible person to solve the problems. However, these "calls" were used to be business managers' job, which would be solved in the cross-departmental meetings. These interrupted calls made the operational staffs felt disturbed." (Interviewee 10)

Operational users felt they were monitored all the time. Systems would notice people when their job was pended, or when they did not sign off the system correctly. Every step must be recorded as to be traceable. However, operators felt frustrated with everything unclosed, they often asked:

"Why should every single tiny application form be checked by the boss?" (Interviewee 5)

"Some users are fond of working on their way to make the process faster, but it is against the standard procedures." (Interviewee 11)

Furthermore, they were confused by the flow and did not know how to trace their order because of insufficient knowledge about the new system processes.

"The users dislike the user interface in English. They often say, "I just don't know English and this has decreased my efficiency!" " (Interviewee 9)

Because operational users are used to keying in data, they are not afraid of using computers. However, they were uncomfortable about the interface of a new system, which took a lot of time to get to work smoothly.

"Why use such a complex system to do such a simple work instead of using Excel?" (Interviewee 2)

For those who were good at their old systems, especially the Excel, introducing a new system was a threat to their existing skills. Some experienced staffs even felt that their value vanished as the new system was introduced. Although the ES was just another system they did not welcome the change from the beginning.

4.1.2 Reasons of Resistance by Categories

For managerial users, misunderstanding and trust as well as different assessment are two main category of resistance. Reasons in the misunderstanding category were considered important by both managerial and operational users. In the different assessment category, irreplaceable decision making skill was scored much higher than disagreement of the system benefits, however, they were both ranked as very important. Managerial users resisted the system mainly because of different assessment of the new systems from change initiators.

For the operational users, reasons of resistance were important in every category, while factors in each category could play different roles in resisting the system. In the parochial-interest concerns, operational users cared more about the loss of skills and autonomy than of power and status. In the misunderstanding category, insufficient knowledge of the new system was a big concern. In the assessment category, workers cared more about the lack of new skills than about role conflict. However, additional efforts could be the most important reason for

operational resistance.

4.1.3 Summary

Managerial users tended to resist the implementation of Enterprise Systems because of different assessment of the systems. They trust their own capability in decision making and disbelieve that the system could make any difference. Sometimes when they did not get involved in the implementation process, mistrust and strangeness brought about their resistance. Operational users tended to resist the system for various reasons including: additional efforts, increased monitoring, insufficient knowledge, and higher skills, loss of job or skills as well as lack of trust. Their resistance seemed to be more complicated to deal with than managerial users.

Table 4-2: Summary of Reasons of Resistance

User Types	Major Reasons (Top reasons with scores above 3.50)	Minor Reasons (Scored as important to very important)
Managerial Users	➢ Decision making can not be replaced (R7) ➢ Disagree the system benefits (R6)	➢ Insufficient knowledge (R4) ➢ Misunderstanding implements process (R5) ➢ Feared to learn higher skills (R8)
Operational Users	➢ Additional efforts (R10) ➢ Increased monitoring (R3) ➢ Insufficient knowledge (R4) ➢ Feared to learn higher skills (R8) ➢ Loss of special skills (R2) ➢ Disagree the system benefits (R6)	➢ Misunderstanding implements process (R5)

4.2 Different types of users resist Enterprise System implementation differently

4.2.1 Behaviors of resistance

The ranked results of resistance behaviors are shown in Table 4-3, with two extra items suggested by most interviewees: (1) opposition to continuous implementation projects, and (2) attribution of faults to others. As shown in the radar graph (figure 4-4), managerial users expressed their negative feelings in meetings and were more interested in the overall organizational benefits. Operational users expressed their feelings against the system in different settings, blamed others for mistakes, and made little effort to improve their work.

Table 4-3: Scores of behaviors of resistance

Resistance Behaviors	Managerial	Operational
B1: Requesting job transfer or withdrawing from job	1.67	2.36
B2: Increased absenteeism or lateness	1.75	1.55
B3: Communicating negative feelings to co-workers	3.58	4.00
B4: Deliberately sabotaging work process	1.67	1.64
B5: Making careless mistakes	2.25	2.64
B6: Refusing to cooperate with other employees	2.00	2.18
B7: Neglecting work assignment	2.67	2.91
B8: Wasting time and making little effort to improve work-related knowledge	2.50	3.18
B9: Accepting inferior quality performance	2.33	2.27
B10: Dissonance with consultants	2.17	2.64
B11: Opposition to continuous implementation projects	2.56	2.00
B12: Attributing errors to other users	2.78	3.78

Managerial users tended to challenge the system's effectiveness to project managers. These managers' comments were based on benefits to their units, not on the value of enterprise integration.

"What a waste to spend money on this expensive system! It can pay for hundreds of us to work on it." (Interviewee 5)

Some powerful managers were an obstacle to the adoption of an enterprise system. They tried their best to prove the low quality of the system, such as incorrect statistical data or misfit to the organizational environment. They tended to turn small problems into critical ones. Two project managers noted that some managers withheld critical information from system testing to prove that the system was malfunctioning, and were unwilling to check the results. Moreover, complaints collected from operational staff were also used in their objections.

However, most interviewees agreed that resistance behaviors were less frequently observed except expressing negative feelings. In addition to attributing fault or opposing the implementation, neglecting work assignment of reviewing data or recoding new item numbers were also observed. Managers were easily found to be absent from the training sessions for busy schedules.

Figure 4-4: Radar graph -Behaviors of resistance by different types of users

Behaviors of Managerial Resistance

Behaviors of Operational Resistance
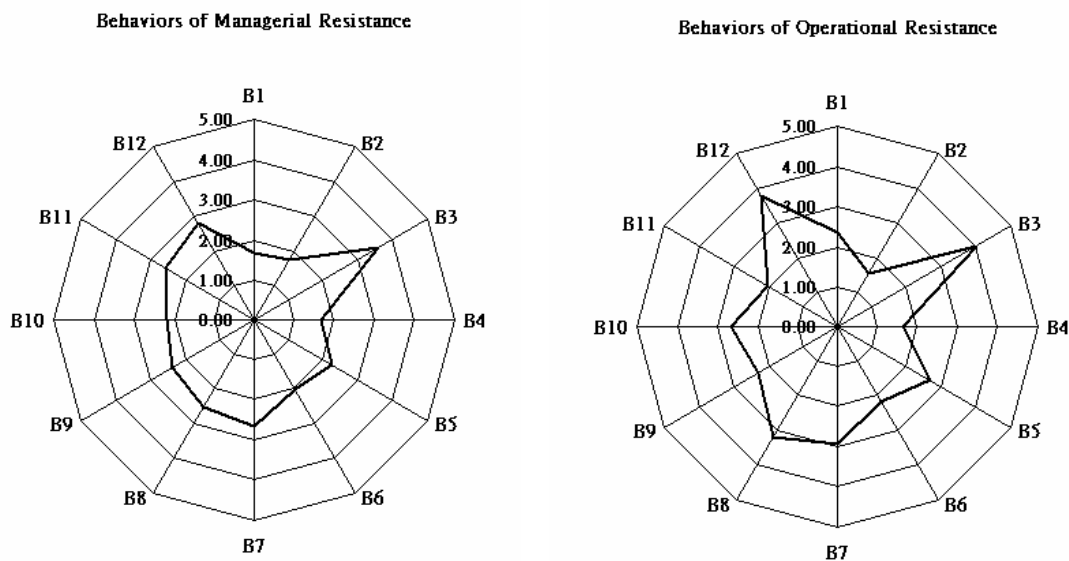
"It depends on the organizational culture. Managerial users are more likely to be the stakeholders and more reasonable than operational users. Once they become a part of the company, they ride on the same boat." (Interviewee 11)

For operational users, the complicated ES flow can be an excuse for making mistakes. These workers tend to blame others first, and attribute the fault to the system's complexity after. They complained "The system sucks!"

"Look! It costs me a lot of time dealing with the computers, but the data is still unavailable!" Interviewee 5 described.

"Why do I have to spend so much time entering an order? It was fine with our hand written documents!" Interviewee 10 described.

"We are so busy! Why should we implement the new systems now? The old one worked quite well, and who knows if the new system would become a miracle as they portrayed!" Interviewee 8 described.

Operational users preferred comparing their works after and before the system implementation. In their interests, any dysfunction or additional work from the change would become their targets of negative expression.

The complexity of the interface and control system worries them and becomes the target of their dissatisfaction. One sales person in a manufacturing company insisted his data were input

Figure 4-5: Comparison of average scores in behaviors of resistance

Behaviors of Resistance (Average Scores)

Behaviors	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Managerial	1.67	1.75	3.58	1.67	2.25	2.00	2.67	2.50	2.33	2.17	2.56	2.78
Operational	2.36	1.55	4.00	1.64	2.64	2.18	2.91	3.18	2.27	2.64	2.00	3.78
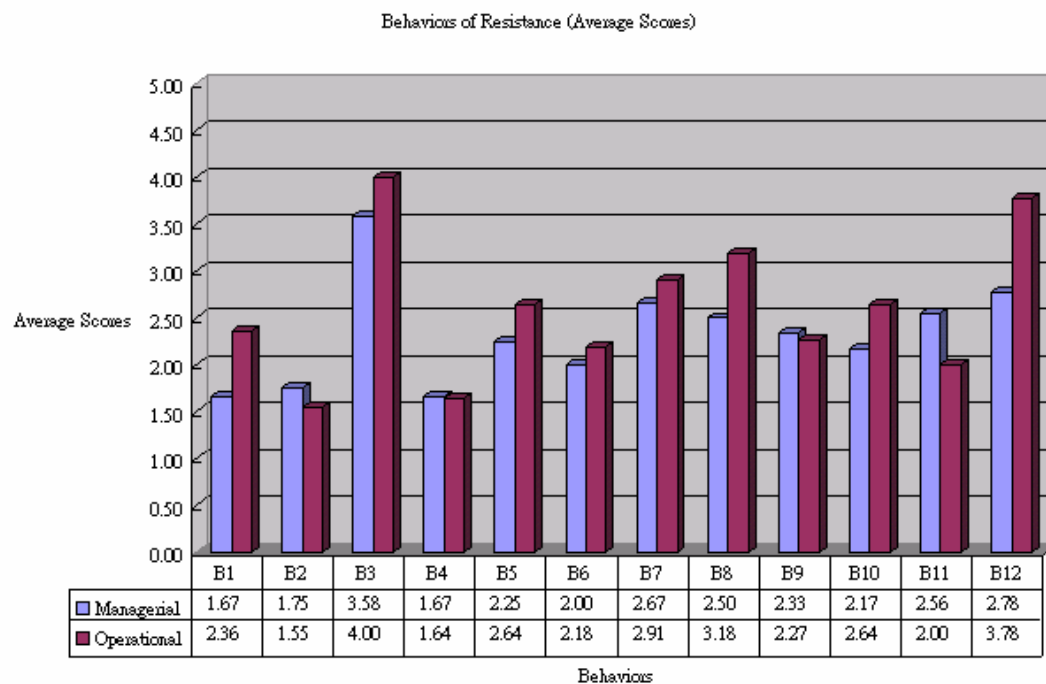
correctly, while the purchasing department claimed that they had not received the purchase notice and blamed the problem on the sy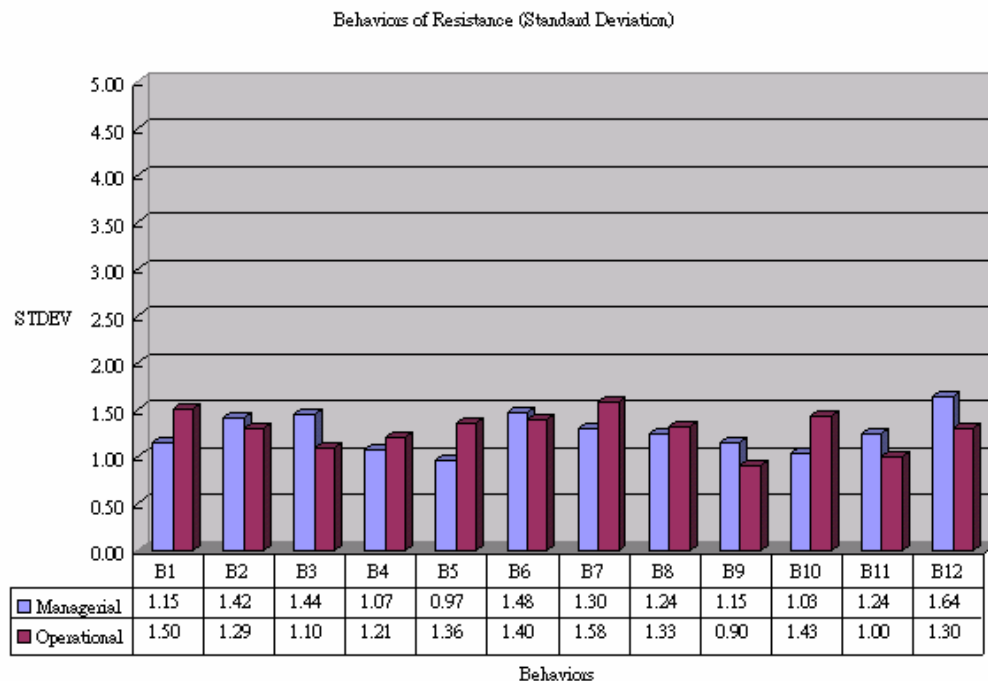stem flow. The manufacturing department claimed that their system did not show production needs. All users insisted their processes were accomplished properly, but the whole process failed nevertheless. Some users complained about the system's inability to allow error checking when wrong data were entered carelessly. Moreover, some users would attribute fault to the IT department.

"They often complained about the support of IT department, "Look! It is the fault of your IS! I cannot finish my job on time because your system is always unable to generate sufficient data for us". However, after we checked the system, we found that the problem actually originated from their incorrect setting of the system." (Interviewee 8)

Other factors included making little effort to improve working knowledge and neglecting work assignments. In some cases, employees were reluctant to participate in training, even though training is a major part of implementation. Users were reluctant to take training seriously unless their boss insisted. They were usually quiet in the training class but raised problems after the system went live. Because they did not pay much attention on the training class, the same questions were asked again and again after the system really went live.

Figure 4-6: Standard deviation of behaviors of resistance

Behaviors of Resistance (Standard Deviation)

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
☐ Managerial	1.15	1.42	1.44	1.07	0.97	1.48	1.30	1.24	1.15	1.03	1.24	1.64
☐ Operational	1.50	1.29	1.10	1.21	1.36	1.40	1.58	1.33	0.90	1.43	1.00	1.30

Behaviors

They were usually absent because they felt that they were not important in the change process, and therefore did not need to attend the class.

  "Those who wanted to learn the new systems would shut down their mobile phones, or make their conversation as short as possible, while the resistant types of employees were looking forwards to getting phone calls. Once they got the call, they went away from class, and never came back. Sometimes they would like to be absent with the excuse, "I have a big customer meeting today, and it is a big deal to the company!"" (Interviewee 10)

4.2.2 Behaviors of resistance by category

Two new discoveries were classified into two different categories respectively. "In opposite to the success of system implementation" is to avoid the change proactively and be destructive to it. "Attribute fault to others" is an excuse to avoid the system. Since it showed no obvious connections between the system and users, thus, was classified as non-destructive.

No behaviors by category would be frequently observed by project managers. However, the diversity of scoring showed that communicating negative feelings to fellow workers, or to the project managers, were the most observed resistance behavior by the managerial users. For the

operational users, same results were found. Interestingly enough both managerial users and operational users were found to be in favor of non-destructive behaviors.

"People will pay a lot for destructive behaviors! Seldom did employees in Taiwan be absent from work or quit their jobs, they only complain in the shop." (Interviewee 8)

Mangers and operational users were seldom late to work or quit their jobs, but only complained a lot with colleagues. Managers were more powerful to resist; however, most managers were well-educated and more reasonable than operational users. They tended to avoid being too emotional on their job.

"Some managers would make their desirable results from the MRP systems by changing the system input. Since they are so familiar with the system function, they know how to make the data look bad. However, most managers are the stakeholders of the company, so they would think more before they resist." (Interviewee 11)

Although users would not proactively disrupt the work processes, it was clear that operational users could be passively-destructive. A reason could be that the traceable working log might easily expose the sources of mistakes and lead to their losing their jobs.

4.2.3 Summary

Operational users cared more about the ease of use of the system, while managerial users cared more about its usefulness. "Communicate negative feelings" would be the most frequently observed behaviors on both managers and operational users. However, operational users usually attribute fault to other users or IT department and sometimes might be unwilling to concentrate on their trainings.

Table 4-4: Summary of Behaviors of Resistance

| User Types	Major Behaviors	Minor Behaviors
Managerial Users	➤ Communicating negative feelings to fellow coworkers (B3)	➤
Operational Users	➤ Communicating negative feelings to fellow coworkers (B3) ➤ Attribute fault to other users (B12)	➤ Waste time and make little efforts to improve work-related knowledge (B8)

Table 4-5: Scores of Strategies for Managing Resistance

Strategies	Managerial	Operational
S1: Pace conversion to allow for reasonable readjustment period	2.73	2.36
S2: Standardize documents so new procedures are easy to learn and reference	3.09	3.09
S3: Retrain employees to be effective users of the new system	3.55	4.27
S4: Reward ideas that will improve throughput	3.18	3.82
S5: Clarify job definition before changeover	3.18	3.00
S6: Upgrade working environment	1.73	1.82
S7: Alter job titles to reflect increased responsibility	2.73	2.27
S8: Call a hiring freeze until all displaced personnel are reassigned	2.18	2.27
S9: Give employees time off after a demanding period	2.09	2.18
S10: Give unions higher wage rates in return for work-rule change	1.09	1.36
S11: Increase pension benefits in return for early retirement	1.64	1.36
S12: Co-opt a group: give one of its leaders or someone it respects a key role in the implementation	3.55	3.64
S13: Involve employees in development of new systems to encourage a feeling of ownership	3.91	3.00
S14: Provide employees with information regarding system changes to preserve ownership	3.82	3.18
S15: Open lines of communication between employees and management	3.91	3.73
S16: Initiate morale boosting activities such as company parties and newsletters to promote community	2.64	2.73
S17: Provide job counseling and organize group therapy to help employees adjust	2.82	3.00
S18: Listen and provide emotional support	3.36	3.45
S19: Conduct orientation sessions to prepare for change	3.36	2.64
S20: Threaten loss of promotion possibilities and jobs	2.82	2.82
S21: Fire or transfer people who resist change	2.18	2.27

4.3 Strategies for managing resistance of different user types

4.3.1 Strategies for managing resistance

Figure 4-7: Radar graph -Strategies for resistance by different types of users
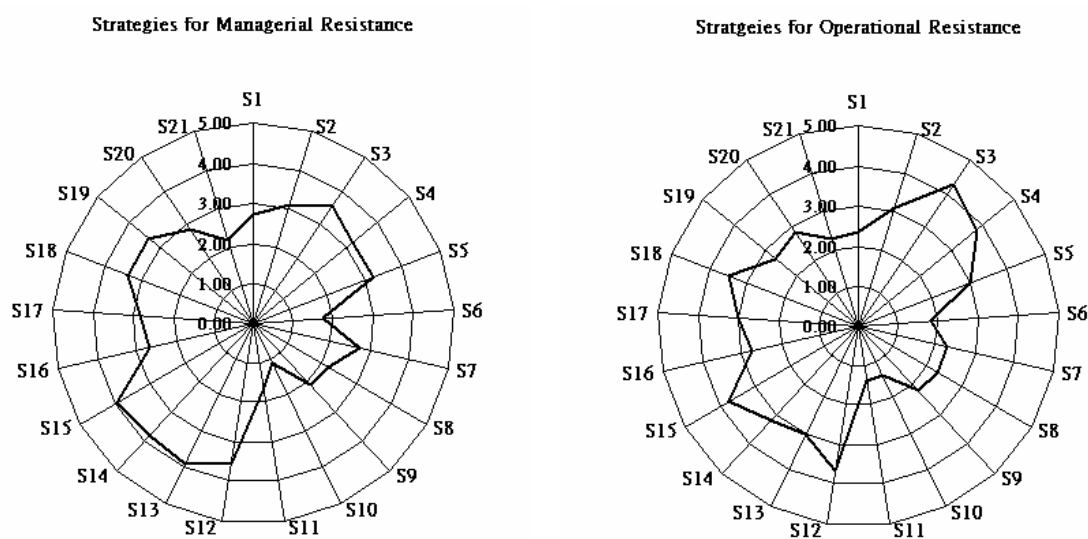
The five most effective strategies for managerial resistance were: (1) involving employees in the development of new systems (2) open lines of communication between employees and management, (3) Provide employees with information regarding system changes to preserve ownership, (4) Co-opting a group, and (5) retrain employees. Participative management style seems to be the most useful in managing resistance. Operational users tend to accept the system if there is (1) retraining, (2) rewards, (3) open lines of communication, (4) co-opting a group, and 5) emotional support. It seems that participative strategies are effective with managerial users, while directive strategies are more so with operational users.

The average scores of resistance management strategies are summarized in Table 4-5, with a radar graph in figure 4-7.

Most interviewees agreed that a buy-in process via managers to operational users was an effective strategy in ES implementation.

"Operational users will accept the system once their managers support it!" (Interviewee 2)

Managers can be uncomfortable if they feel they are not being involved and informed of the change process. Communication about system benefits helps managers to accept the system, and they can pass the message on to their staff.

For managerial users, it is very important to address the benefits of the system and benefits to the future. At least two interviewees mentioned that the future benefits and achievable goals of

Figure 4-8: Comparison of average scores in strategies for managing resistance

Strategies of Dealing with Resistance

	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18	S19	S20	S21
Managerial	2.7	3.0	3.5	3.1	3.1	1.7	2.7	2.1	2.0	1.0	1.6	3.5	3.9	3.8	3.9	2.6	2.8	3.3	3.3	2.8	2.1
Operational	2.3	3.0	4.2	3.8	3.0	1.8	2.2	2.2	2.1	1.3	1.3	3.6	3.0	3.1	3.7	2.7	3.0	3.4	2.6	2.8	2.2
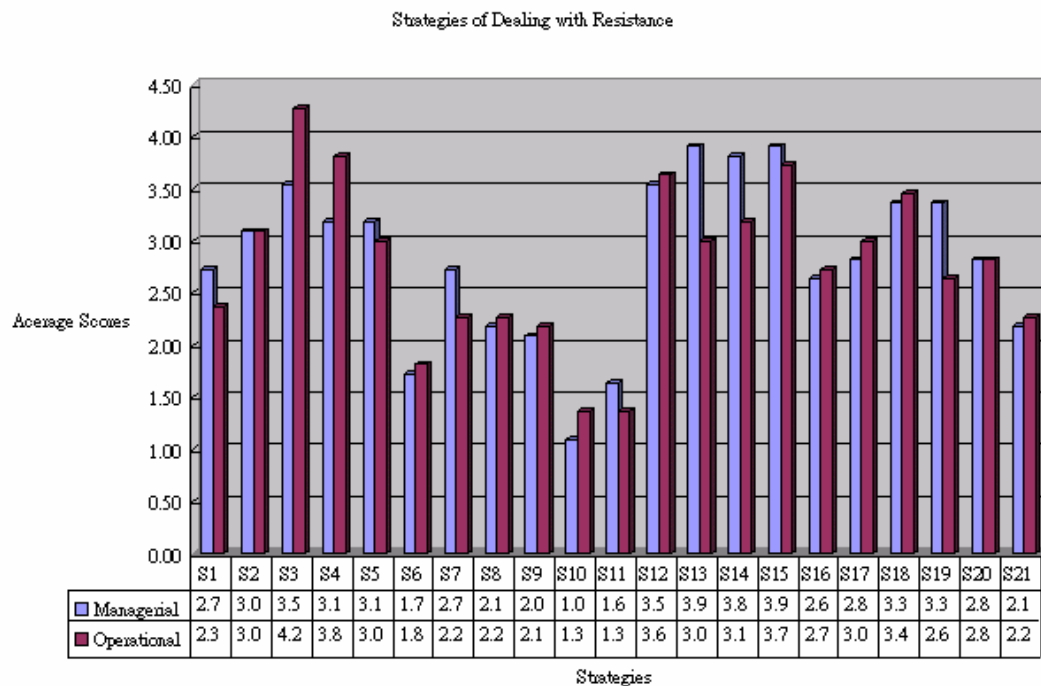
the Enterprise Systems were the most important points in communicating with managerial users.

"You must let them know what the benefits are and how the system can help them." (Interviewee 6)

"Managers are eager to know what the benefits are for learning those complex reports generated from the system." (Interviewee 5)

"Managerial users need to join the meetings with top managers, and gain more opportunities to communicate with them. In this way problems could be solved easily." (Interviewee 8)

As interviewee 3 mentioned that rewards were not so attractive to managerial users. For managerial users were often paid higher than operational users. Those offered compensation were relatively small in compare with managers' salaries. What managers cared about was the "future benefits" to the company and "the ways to know the future benefits", i.e. enough participation and information.

Operational users required more training and boost-up during system implementation and use. As described by interviewee 1, companies that intensively trained their operators before the

Figure 4-9: Standard deviation of strategies for managing resistance

Strategies of Dealing with Resistance

Strategies	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17	S18	S19	S20	S21
Managerial	1.5	1.8	1.4	1.6	1.5	1.1	1.7	1.6	1.5	0.8	1.3	1.5	0.9	1.4	0.9	1.7	1.8	1.5	1.6	1.4	1.6
Operational	1.4	1.9	1.4	1.1	1.6	1.1	1.6	1.7	1.7	1.2	1.0	1.4	1.7	1.5	1.6	1.8	1.9	1.6	1.8	1.5	1.4
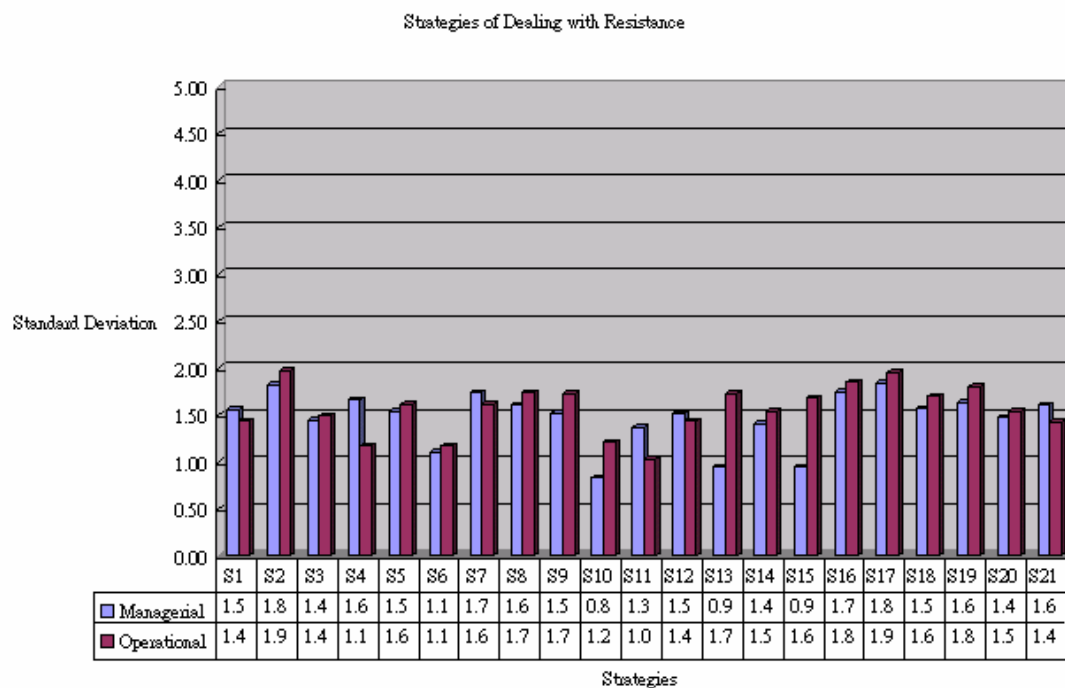
system went live and prepared sufficient support afterwards encountered fewer problems. Other successful cases were of managers that had a strong desire to bring about change.

When front-end users complained about spending 10 minutes on data entry, the vice president called in a group of model operators to enter the same data; they took only three minutes. The disgruntled operators were asked to meet the standard with one week's training. With additional rewards, these operators were able to complete the task in one minute after two weeks.

Timely rewarding is useful with operational users. Project team members often worked overtime on testing systems and additional bonus were encouraging. One company had estimated 500 days to finish the implementation process, and announced a bonus from money saved on consulting fees if the system were implemented in under 500 days. The staff made extra effort to achieve the goal. Financial incentives, was considered another effective strategy in promoting acceptance.

"One company had held a campaign for best end users evaluated by the implementation team." (Interviewee 10)

Open communication, listening, and emotional support are other strategies for managing

operational resistance. Communicating with users in their "words" is a strategy to buy them in. It is not effective to explain benefits to operational users using managerial terms, as users are more concerned about their day-to-day work. Most interviewees applied coffee-break conversation as a way to make friends with end-users and hear complaints.

Co-opting strategies and listening with emotional support are both effective to managerial and operational users. With the support of the top managers, managerial users perceived that they had the same goals with the company. For operational users, they tended to follow their direct managers. As quoted previously, operational users tended to accept the system once their managers support it! However, the success of applying these strategies would depend on the organizational culture.

"Organizational culture plays an important role in this game. We can do little unless they really want to." (Interviewee 11)

There were three strategies scored as nearly not important at all: (1) Upgrade working environment, (2) Give union higher wages rates, and (3) Increased pension benefits. These strategies are unlikely to happen in Taiwan. Because organizations seldom spend additional money to improve working environment after the huge investment of Enterprise Systems and union is not a critical player in firms in Taiwan. Even though pension benefits may be more useful for managers than for operational users, however, it is not treated as an important factor of successful ES-enabled change by most interviewees. It would be interesting to test it with other cultures.

4.3.2 Strategies for managing resistance by category

Strategies for managerial users are more effective than operational users (Figure 4-14). Participative strategies and consultative strategies were two main effective strategies for both managers and operational users. For managerial users, involvement, information, and communication in the participative strategies were found to be more effective than morale boosting activities. In the consultative strategies, listen and emotional supports as well as orientation sessions were more effective than job counseling. In the directive strategies, even the average was not scored as important, but some items in this category got a relative higher standard deviation, i.e. document standards, training, rewards, and clarify job definition were much more important than others, and training was the most effective strategy in this category.

For operational users, participative strategies were scored important factors; however,

communication is the most important one. In the consultative strategies, listening and providing emotional supports were the most important strategies. According to the relatively high deviation in the directive directory, even directive strategies were not scored averagely important, the training and rewards were the most important strategies of all 21 strategies.

After all, each category has some important factors to be noted and none of the management style was treated as particularly important. Combinations of strategies should be applied to managerial users and operational users with different focuses.

Coercive strategies were not evaluated as important factors in managing resistance; however, some interviewees emphasized their effectiveness. In several cases in traditional industries where bosses had full authority to enforce organizational change, users were told to follow the change plan at all costs. Some even threatened their staff with dismissal or low performance evaluation. Users, especially in urban areas where job opportunities were scarce, were serious about the change and endeavored to accomplish it.

After all, top management support is still the driving force in the change process.

"Once employees noticed that the big boss had shifted his attention to other projects they tended to move resources to others and spend lesser time in the project. For instance: sent lower level staff to meetings, missed out training classes, or ignored project related memos......" (interviewee 9)

4.3.2 Summary

Managerial users need more participative management on involvement, communication, and sufficient information about the change. Top management should be involved to lead the change, providing managers with the same goals and vision, listen to them for involvement, as well as proper trainings on different decision making skills supported by the system.

Operational users need more training on user interfaces with rewards ideas and communications. A respected leader would be helpful to the change, usually their direct managers. Well defined documents could be useful to their familiarity on their job, thus, eliminating additional efforts.

"We have once told the operators what fields are necessary while others can be treated as optional. Supported by the notes, they become so familiar to their daily job and never fear to deal with the complex user interface any more." (Interviewee 10)

Table 4-6: Summary of Strategies for Managing Resistance

User Types	Major Strategies (Top strategies or with average scores greater than 3.5)	Minor Strategies (Scored as important)
Managerial Users	➢ Involve employees (S13) ➢ Open lines of communication (S15) ➢ Provide employees with information (S14) ➢ Co-opting a group (S12) ➢ Retrain employees (S3)	➢ Listen and provide emotional support (S18) ➢ Conduct orientation sessions (S19) ➢ Rewards ideas (S4) ➢ Clarify job definition before changeover (S5) ➢ Document standards (S2)
Operational Users	➢ Retrain employees (S3) ➢ Rewards ideas (S4) ➢ Open lines of communication (S15) ➢ Co-opting a group (S12)	➢ Listen and provide emotional support (S18) ➢ Document standards (S2) ➢ Clarify job definition (S5) ➢ Provide information (S14) ➢ Involve employees (S13)

However, strategies should not be applied alone in any managerial style. Besides, when applying each style of managing strategies, certain aspects concluded on Table 4-6 should be focused.

4.4 Conclusion

Based on cross-case analysis this study noted that managerial users tend to resist ES implementation mainly because they have doubts about system benefits and its capabilities of decision-support. They seldom expressed their negative feelings except complained to fellow coworkers. The effective strategies for managing managerial resistance suggested by experienced project managers are to enhance involvements with direct communication and sufficient information. Top managers' attitude can strongly affect these managerial users in system use and additional trainings on reports utilization as well as the communication skills with their subordinates are highly needed. The framework of managerial resistance is shown on Figure 4-10.

Operational users have more reasons to resist the ES, including parochial-interest, misunderstanding, different assessment, low tolerance and additional efforts. Additional effort required is the biggest concern of those users. Besides, loss of special skills and autonomy are causing the uncertainty of their future. They resist for insufficient knowledge of the system implementation and new skills required. For those frequently contact with the new system, they not only complained about the complexity of using the new system, but also attributed faults to other people when errors occurred. The framework of managerial resistance is shown on

Figure 4-11.

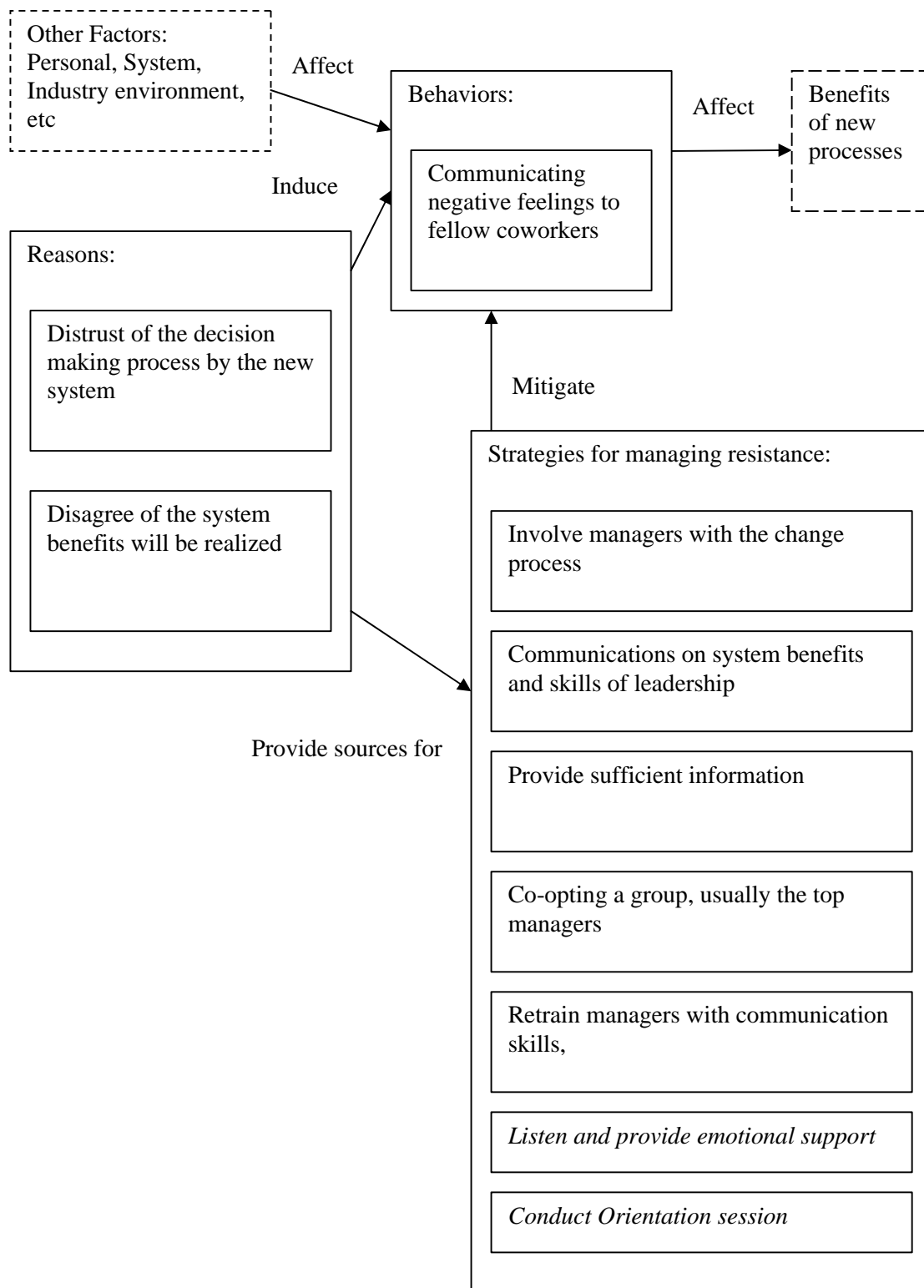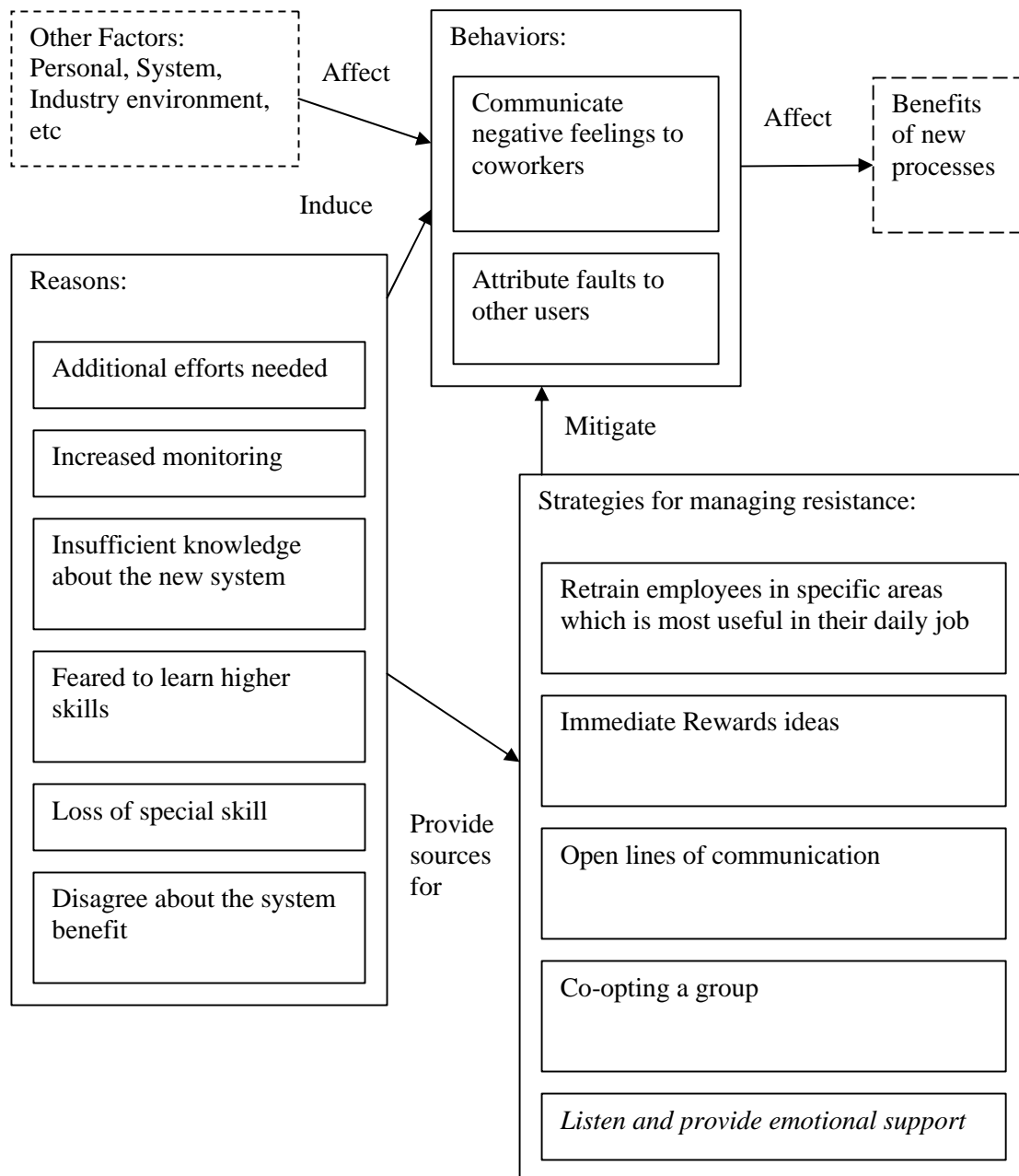Figure 4-10: Managerial Resistance to Enterprise Systems

Figure 4-11: Operational Resistance to Enterprise Systems

```
┌ ─ ─ ─ ─ ─ ─ ─ ─ ┐                    ┌──────────────────────┐
  Other Factors:                        Behaviors:                        ┌ ─ ─ ─ ─ ┐
  Personal, System,     Affect          ┌──────────────────┐    Affect     Benefits
  Industry environment,  ─────────────▶ │ Communicate       │   ────────▶   of new
  etc                                   │ negative feelings │              processes
└ ─ ─ ─ ─ ─ ─ ─ ─ ┘                    │ to coworkers      │              └ ─ ─ ─ ─ ┘
              Induce                    └──────────────────┘
                                        ┌──────────────────┐
┌──────────────────┐                   │ Attribute faults  │
  Reasons:                              │ to other users    │
                                        └──────────────────┘
  ┌────────────────┐
  │ Additional      │                        Mitigate
  │ efforts needed  │
  └────────────────┘                   ┌──────────────────────┐
  ┌────────────────┐                    Strategies for managing resistance:
  │ Increased       │
  │ monitoring      │                   ┌──────────────────────┐
  └────────────────┘                   │ Retrain employees in  │
  ┌────────────────┐                   │ specific areas which  │
  │ Insufficient    │                   │ is most useful in     │
  │ knowledge about │                   │ their daily job       │
  │ the new system  │                   └──────────────────────┘
  └────────────────┘                   ┌──────────────────────┐
  ┌────────────────┐                   │ Immediate Rewards     │
  │ Feared to learn │  Provide         │ ideas                 │
  │ higher skills   │  sources         └──────────────────────┘
  └────────────────┘  for              ┌──────────────────────┐
  ┌────────────────┐                   │ Open lines of         │
  │ Loss of special│                   │ communication         │
  │ skill          │                   └──────────────────────┘
  └────────────────┘                   ┌──────────────────────┐
  ┌────────────────┐                   │ Co-opting a group     │
  │ Disagree about │                   └──────────────────────┘
  │ the system     │                   ┌──────────────────────┐
  │ benefit        │                   │ Listen and provide    │
  └────────────────┘                   │ emotional support     │
                                        └──────────────────────┘
```

Although some resistance behaviors may not cause damages to the company it can indirectly affect the effectiveness of the use of the system and the overall performance. For instance: sharing negative feelings may not cause any problem immediately but it reduces the willingness of self-work improvement. On the other hand, attribute faults place no harm to the work, but it creates a culture of blaming each other and leads to an unproductive work environment. Thus, it is important to understand the typical behaviors of different types of users.