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RESEARCH NOTE **THE HUMAN FACTORS THAT IMPACT** **APPLICATION VALUE**

THE BOTTOM LINE

Human factors can influence up to half the total potential value to be derived from a collaborative application. To maximize this value, organizations must devote as much energy to addressing human barriers during deployment and identifying problems in the first year as they did to selecting the solution.

Most IT professionals realize the basic tenet of new technology: if the user won't use the application, the return on investment from the application will likely be negative. Nowhere is this more critical than in the areas of collaboration software, including extranet and knowledge management applications. Unlike traditional enterprise applications where the value is often found in non-human savings such as streamlining a process or reducing overhead, most of the value in collaborative applications can be found in non-tangible human areas such as facilitating communication and sharing among the workforce.

Unfortunately, if the user is unwilling to share information or collaborate, little is gained from deploying a collaborative application. Is the potential missed benefit that great? Nucleus research of more than 50 collaborative application deployments has found human factors can influence up to 50% of the total potential benefit to the company. Companies that deploy groupware without a strategy that addresses the impact on users are limited to, at best, half of the potential return.

Nucleus has defined four basic categories of human barriers to collaboration. By placing potential problems into these categories, organizations can recognize them based on their root cause and utilize specific techniques to limit their negative impact on value. These four barriers are individual, structural, hierarchical, and cultural.

INDIVIDUAL

The greatest benefit of collaboration is in the free transfer of information and knowledge within a company and its extended supply chain. Unfortunately, this process relies on the willingness of users to both share information and reuse information created by others.

Traditional corporate cultures believe they reward individuals for their knowledge. However, they often do so by recognizing success against other employees. This enforces employees' belief that the knowledge they have ensures their position and stature within the organization. Freely sharing this knowledge makes them vulnerable, and in a highly competitive organization, it can be detrimental to their

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careers. This same dynamic can be seen at an aggregate level. Recognizing a group that showed the greatest increase in profit may seem like a good idea; however, it discourages members of all groups from sharing ideas and best practices outside the group.

Before undertaking any collaborative initiative, organizations should take a hard look at the corporate culture. It is likely that individuals will feel threatened by any project that pushes them to share information, making it critical to “sell” the application based on the benefits to the users, not the benefits to the company.

If there is any single worst example of poorly selling an application to users, it is the frequent deployment of a knowledge management application based on the need to capture corporate knowledge. Asking users to share all their information so they may be more easily replaced guarantees non-compliance or, at worst, a knowledge base filled with bad information. A better strategy is to deploy a knowledge management system that couples the capture of organizational knowledge with tools for increasing individual productivity and to focus on promoting the productivity functionality to users.

STRUCTURAL

Groups within companies do not always share information freely — and technology alone will not change them. Companies should not expect that giving groups collaborative tools will make them into sharers. If greater Sales feedback in the product development cycle is seen as a positive step for the company, Marketing may need to overcome its natural instinct to withhold information from the sales force on new products for fear of impacting current sales.

The ideal strategy for overcoming structural barriers is to avoid them from the outset. Focus on collaborative efforts within groups and show the benefits collaboration can provide. If Accounting recognizes the benefits of collaboration during the yearly audit, they will be more receptive when Marketing asks them to be part of a collaborative development team.

HIERARCHICAL

Managers like doors. Even “open door” policies have limits, and most managers wish there were more. Doors create power and stature over the non-door world, and management revels in this. The threat to management is that the electronic world of collaboration has no doors. To compound the problem, e-mail addresses do not carry titles. Participating in a global extranet, Bill@bigcompany.com can be either the CFO or the summer intern. He gains stature within a group based only on the knowledge he brings. And Bill may never meet the CEO, but he can send him his thoughts on his supervisors directly via e-mail — or even better, he can start a discussion group on what he believes is wrong with the company. He is always left wide open to discussion or debate by another member of the group, regardless of title. Good managers will appreciate the openness and availability of a new channel for feedback. Bad managers may subtly try to undermine the effort.

Nucleus believes that to really benefit from collaboration, managers must learn to coach rather than control. Directing a threaded discussion to an end result requires techniques few learn in graduate school. Those who are too quick to end a discussion topic may stifle further sharing; too slow, and a project may be derailed.

Getting the best from a group that you can't see and may have never met is a real challenge.

Tone and context are also key factors to consider in an electronically supported collaboration environment. When managers first move to the electronic world they may be surprised at the reliance they had on verbal communication and, specifically, tone. Tone is absent from written communication, and it is often difficult to look past an electronic message to understand the true communication. Does a short response to an employee mean the boss is angry, or just busy? The :), :(s, and :os of the non-corporate electronic world play an important role in helping users — who may not know each other well, if at all — understand tone. Similar attention to electronic tone in the corporate communication setting can improve negotiations, reduce misunderstanding, and raise morale in organization where e-mail communication is displacing face-to-face or telephone contact.

If the most important step in deploying a collaborative application is the sales pitch to the user, the second most important is training management to command and coach with appropriate tone in the electronic world.

CULTURAL

We all recognize that people of different cultures communicate and collaborate in different ways. Japanese, Germans, French, and Americans all have different cultural styles of group dynamics. Asking a cross-cultural group to collaborate electronically is likely to result in less than the expected results. To ensure success, care must be taken in first assembling cross-cultural groups that are focused on a single objective or have similar backgrounds. For example, consultants from different offices of the same company are more likely to be able to collaborate effectively than are a French supplier and an American customer.

Where cross-cultural groups are needed, it is important to foster relationships outside the electronic medium. One successful company eliminated potential confusion in using written communication by mandating that the phone was the first medium for one-on-one collaboration while e-mail was the second.

CONCLUSION

Successful collaborative initiatives follow a recurring pattern of reviewing each of the four barriers listed above and quickly identifying and addressing potential problem areas. Ensuring an effective collaborative environment means taking proactive steps to avoid problems before deployment and understanding failures after. Nucleus believes the most ineffective applications can be successful if the employees are willing to maximize their use while the most effective can be rendered useless if employees shun them.

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