ABSTRACT

Work Team Management. The Challenge of an Endless Race in Organizational Development.

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Organizations invest many resources implementing work team strategies; however, while short-term gains may be realized, the organization may over time see decreasing benefits from implementation of a single strategy. Rather, organizations should adopt an evolutionary strategy to team development, treating the “team process” as any other process, subject to continuous improvement. In this paper we develop a model to demonstrate to a decision-maker how different forms of team development impact "vitality", where vitality is defined as the enthusiasm, energy, and productivity of the team. The purpose of the model is to describe the *behavior* of the level of "vitality" of work teams.

Systems Dynamics is used to simulate the model. Three scenarios, ***"Fashion Follower", "Conformist" and "Endless Race Challenge"***, describe different approaches to work team development. A ***Fashion Follower*** scenario is the result of Management implementing work team strategies with the hope of obtaining the same results of a leading company already working with them. Copying another's group’s strategies cannot always be done in a timely fashion, thus development of the group tends to be cyclical. The ***Conformist*** scenario shows implementation of different team strategies where the rate of implementation is relatively slow. ***Endless Race Challenge*** is the scenario where an organization could be creating or leading introduction of group strategies and team development is sustained with a fast rate of improvement and management adopts new approaches perhaps before existing approaches have proven to be ineffective.

FULL TEXT

Introduction

High-functioning teams are essential to the success of modern organizations. Two basic types of teams are used in companies: work teams and project teams. Work teams typically consist of members from the same functional area, and often with the same level of authority. They perform tasks on a daily basis, coordinating tasks between themselves in a semi-routine manner. Work teams add flexibility, as members learn different skills from one another, and some level of the coordination is performed by the team rather than the manager. In the extreme, work teams may be self-directed, taking on all of the coordination tasks required. Project teams may consist of members from the same or different functional areas, and may represent different levels of authority. Project teams perform specific tasks over a finite period of time and then disband. Project teams are often used in the context of quality or

productivity improvement. Project teams are often lead by a specific member of the team, and that project manager coordinates with other functional managers in various ways through some sort of matrix-like organization structure. In this paper we shall focus on work teams, although the general concepts can also be applied to project teams.

Wellins et al. [17] report that work teams are most prevalent in the manufacturing environment; their survey found that the percent of firms that had implemented work teams across different industry sectors was: Manufacturing (71%), Service (10%), Public Services (5%), and Military (3%). This is probably because (a) tasks are more complex and interrelated in Manufacturing, and (b) survey respondents are much more likely to know and use the term "work team" in the manufacturing sector versus the other sectors. In this paper we shall focus our example on the manufacturing sector as this represents the majority of application.

Numerous benefits have been associated with work teams in the manufacturing sector, including higher product and process quality, reduced cycle time, reduced waste and inefficiency, increased safety, and increased work motivation and morale, which in turn leads to less turnover and better retention. For example, one study showed that a mere 7% decrease in turnover, brought about by better human resource strategies, led to an increase in shareholder wealth of over $41,000 per employee [10].

Companies are interested in developing the skills and capabilities of both work teams and project teams. This involves not only the skills associated with performing the actual work, but also skills associated with the actual team process. Such skills include talking and listening and other interpersonal skills, planning, problem solving, conflict resolution, task and time management, documentation, and data analysis. Skills are usually imparted through a combination of training, facilitation, and performance feedback.

A basic question is: How should a company improve the effectiveness of its work teams? Many different strategies for workforce development have been tried, with varying degrees of success. In this paper we focus not on the specific strategies per se, but rather their inter-relationship to one another over time. We pose three different strategies, *Fashion Follower, Conformist* and *Endless Race Challenge*, and develop a system dynamics simulation model to demonstrate each strategy's effect on work team effectiveness. The simulation model can be used by decision makers to determine how a particular strategy, and its timing, might impact performance.

Work team strategies in Organization Development

Organizational Development (OD) is the process by which a group modifies the manner in which it performs work and/or interrelates to one another in order to improve, through a change of strategies, practices and training to adapt to its technology and the pace of that change [3]. OD efforts rarely emanate from a specific

OD function; rather human resource and training personnel, personnel associated with the company's total quality management function, and general and executive managers take on OD activities.

Smith [15] states that numerous factors have led to companies focusing on work team development as a core component of their HR strategy. Market and technology factors have heightened the need for flexibility in the work place. When flexibility is not an issue, then routines can be established by experts and followed over long periods of time—there is little need to instill self-managing capabilities within the team itself (although there still may be positive benefit to doing so from a morale standpoint). When flexibility is required, then decision-making must be pushed to the level where work is being performed—the work team.

Quality circles are a common form of work teams used to facilitate the continuous improvement process [4, 7, 9]. Lawler and Mohrman point out that quality circles may act as a trampoline to self directed teams strategies [9]. Kreitner and Kinicki warn about the implementation of quality circles as a fashion when there is a lack of top management's support [9]; in fact this describes one of the scenarios we will introduce later named "fashion follower". Self directed teams represent the next stage of team development [7, 9, 18]. Small Business Units, described by Prahalad [11], are considered as a possible next step in working with team strategies.

Louis E. Davis suggests three dimensions as characteristics of work: autonomy, growth and variety. It's the lack of variety that leads workers to mental fatigue resulting in efficiency loss [5] . This can be observed in the model also in the macro level of the employees working as a team for a while, the team would fatigue from working too long under a certain strategy, supporting the model behavior of loss of novelty in team strategies implementation.

People as Technology

Technology is defined as the art and science that are employed by an organization to convert its inputs into output as production and distribution of goods and services [6]. We can identify three basic forms of technology in an organization: Hardware, as the physical objects like pencils, computers, refrigerators, automobiles, etc.; Software, as the logical objects like procedures, methodologies, policies, techniques, etc.; and Peopleware [14], like the trained, experienced and knowledgeable worker within an enterprise. Peopleware is our focus here handling team strategies as technology.

Management of Technology

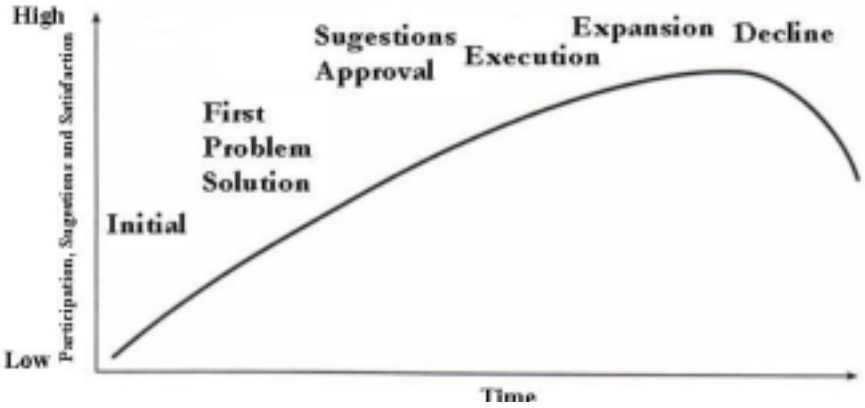


Figure 2. Quality Circle Life Cycle Model, adapted from Kreitner, R., Kinicki, A. in Comportamiento de las Organizaciones; IRWIN; Madrid:1996, p 377.

A model of the life cycle of a quality circle presented by Kreitner and Kinicki show similarities with the "S curves" concept in Management of Technology [8,13]. Hodge and Anthony present a model for an organization's life cycle with a small variation in shape [6]. Although Ford et al. caution of the variations appeared as models of the basic life-cycle model [5]. However, the main concern is the notion of a team's productivity not as continuously increase but as fall down shape, eventually, over time.

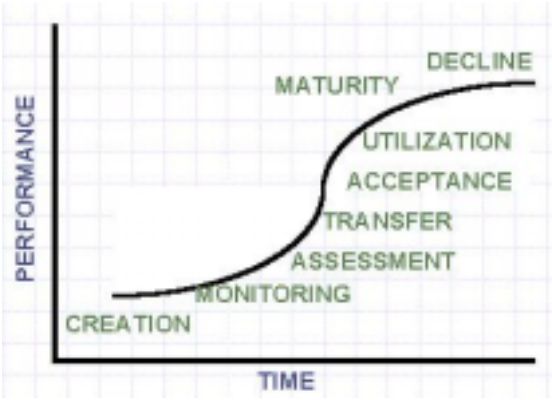


Figure 2. "S curve" of Technology Performance

The S curves model bring up the notion of how technology performs over a time span from its creation, rise to maturity and decline, Figure 2, similar to the basic life cycle model. Additionally, Figure 3, offers an alternative to sustain the technology performance by jumping from one technology to its replacement through the phasing out of the one close to decline and phasing in the new one even before the effects of declination are evident in the preceding technology.

Figure 3. "S curves" as jumps in Technology

Decision Making Support

Decision Support Systems (DSS) are a special kind of Information Technology based System. A DSS consist of four basic elements: User Interface, Database, Decision Model and Scenario Analysis. The User interface is the "face" of the system to a decision-maker allowing an interaction with data in the database under the support of the decision model. The interaction with the data, internal or external to the DSS, is leveraged through the Scenario Analysis, where the decision-maker can play with What If and Goal Seek scenarios [16].

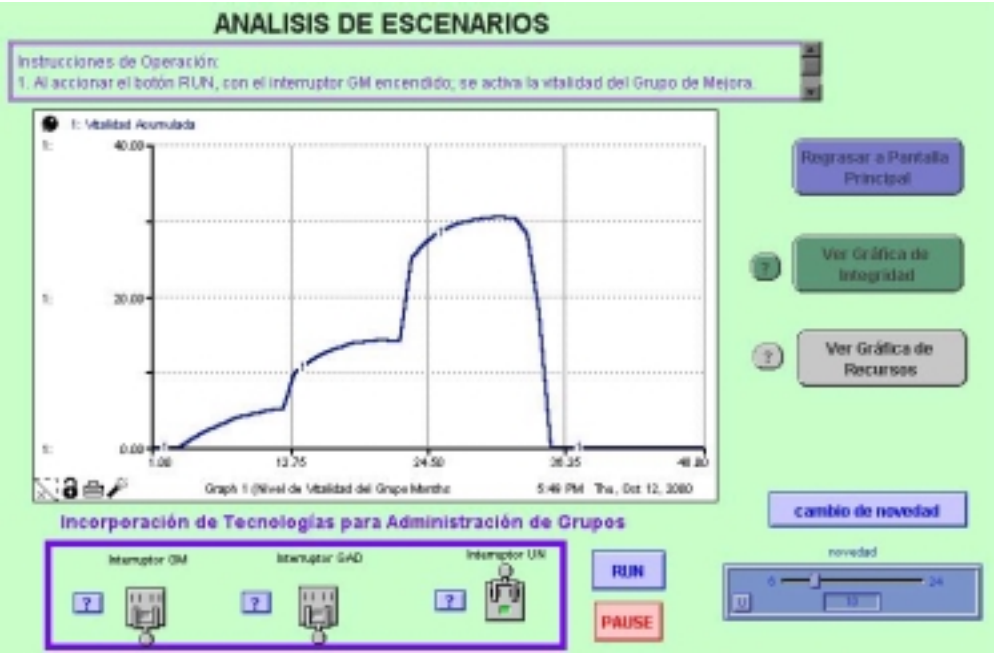
The effort of starting a new team strategy can be considered as a project and people, willing or designated to be part of the team, as the team members themselves to work in the project.

Clark, K. and Wheelwright remark the need of an anticipated vision of what a team will achieve even before the project begins [2]. Therefore, a System Dynamics model [12], as a DSS, becomes useful to demonstrate to a decision maker, in charge of the decision of the “right moment” to start a team strategy, what will be the effect of the decision taking into consideration what previous strategy was started, where is that in the life cycle, and what will be the relationship and effect upon the timing of implementing a new strategy now or later. And further more, the simulation model can assist the leader to explain in advance to the team members of the project the reasons of the timing for phasing out and in each team strategy.

Ahlemeyer points out two basic concepts from Luhmann and Baecker, which are embedded in the model’s behavior and response to user interactions; how organization are conceived as social decision systems and how decisions in the past reproduced the existing organization and present decisions shape the future of the organization [1].

Endless Race Model

Knowledge Management [1] in the form of a computer model embedded knowledge from experts about team strategies to show the "Endless Race" involved in managing work teams. A software tool, Ithink, was used to implement and simulate the model, taking advantage of Systems Dynamics [12]. The model is then used to demonstrate to a decision maker how different forms of team development impact "vitality", where vitality is defined as the enthusiasm, energy, productivity. Implementing work team strategies in a timely fashion result in improvements on productivity.



Assumptions

Three team strategies are considered from the manufacturing field to be chosen as interaction with the computer model. There is not a restriction sequence upon implementation of team strategies but suggested by the order of the switches in the interface screen as shown in figure 4.

Interface

The model's interface runs in a personal computer to generate, from the decision maker interaction with the model, graphical displays of the team vitality over a time span of 48 months. The decision maker can adjust his or her personal consideration for team strategies´ novelty up to 24 months.

With the assistance of the pause and run buttons, a decision maker pauses the simulation to activate a new team strategy with the switches in the bottom of the screen. Then the model run again until the decision maker pauses the simulator to start a new team strategy. While the simulator is running the central graph displays how is the team's vitality behaving.

Scenario Simulation

Three scenarios are representative to illustrate working with team strategies in a manufacturing facility. The model was developed as a Support Tool for three manufacturing facilities implementing team strategies over a period of 5 years. Each facility implemented team strategies in different periods obtaining results as shown in the following scenarios.

Fashion Follower

Figure 5 is the result of a "Fashion Follower" scenario where team strategies are introduced as independent efforts. We can see how the vitality of a team drops for a particular team strategy as time pass by and a new team strategy to come have to start all over again losing the momentum achieved by a previous team strategy. In this scenario a decision to start a new team strategy was taken until the loss of momentum of each previous strategy was evident.

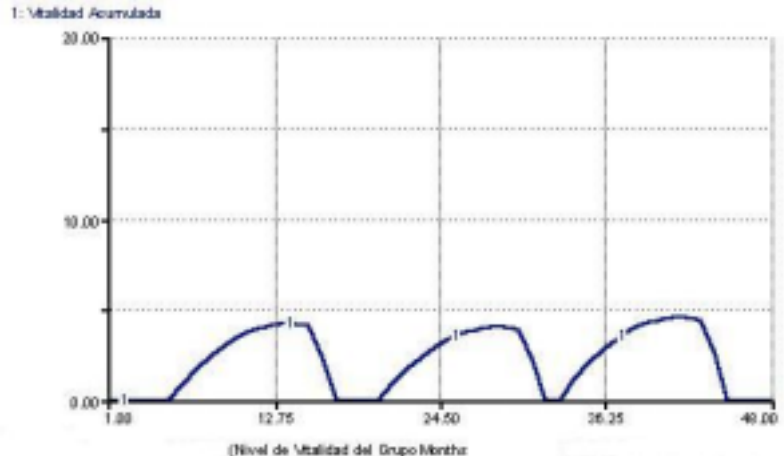


Figure 5. Fashion Follower Scenario from Computer Based Model

Conformist

The "Conformist" scenario shows how team strategies were introduced at the early signs of maturity anticipating to the declining of the team's vitality under a current team strategy. The result, as shown in figure 6, allow a built up on top of the momentum achieved by the previous team strategy, still in its way up but in parallel,

while preparing and forming the team for the next team strategy. However, management can observe an overall continued build up of team's vitality over a given period but with a relatively slow rate of improvement. Basically, under this scenario, management rely on standard forms of team strategies or technologies available [2].

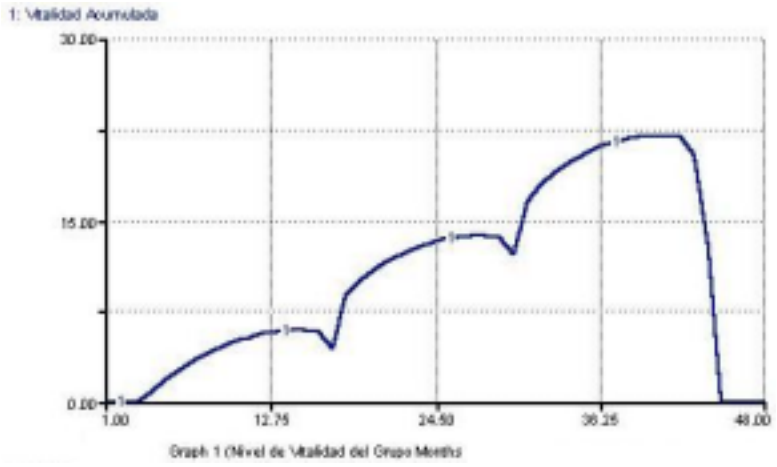


Figure 6. Conformist Scenario from Computer Based Model

Endless Race Challenge

Management can lead the introduction of new forms of team strategies, by their creation within the organization or by effectively implementing them, from others in a timely fashion resulting in a sustained team development with a fast rate of improvement. Even adopting new approaches perhaps before existing approaches have proven to be ineffective. Figure 7 expose this scenario named "Endless Race Challenge" because of running out sooner of available team strategies to be implemented before the declining of the last available option, which can be the case of those organization working with the latest form in team strategies. If a new team strategy is not conceived and started on time, even after a high rate of improvement, a precipitation of results can be observed as described in the former scenarios.

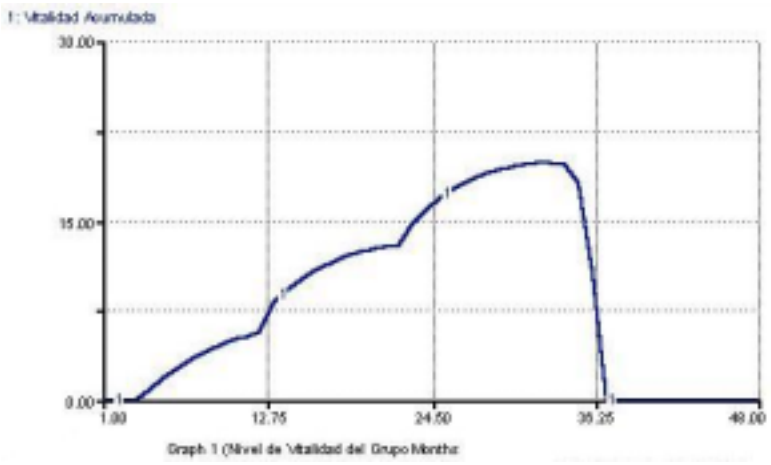


Figure 7. Endless Race Challenge from Computer Based Model

Conclusions

A decision maker faced with the need of Work Team Management can be assisted with a computer based model to generate an overall vision of implementing work team strategies and how they could be incorporated into an general planning to keep up the momentum achieved from each strategy resulting in a continuous improvement in productivity.

A computer based model can incorporated studies and theories in a form of simulator for a non expert to grasp the basic knowledge about work team management as well

as to facilitate communication with team members on how to be prepared when participating in a project where the target is the team itself to increase its productivity.

This can be an example case for other pieces or sets of knowledge to become available for final users in need of the knowledge available in academia, research communities, specialized journal and other similar publications.

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