"How Can Group Support Systems Influence Goal Congruence?"

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Abstract

This preliminary research paper proposes to test the hypothesis that the use of GSS tools can increase goal congruence and therefore productivity of groups working in teams. Specifically, the hypothesis posits that GSS can increase team member's perceived-effort-available, a construct of goal congruence under Briggs Focus Theory of Team Productivity.

Introduction

Research into implementations of group support systems (GSS) continues, focusing not just on the technology but also on the processes groups employ while making use of technology (Dennis, Gallupe, 1993); (Downing 1999). In fact, a great deal of research has been done on the processes that groups employ in their work (with and without technology support) especially in the areas of group decision and negotiation. (Robertson, 1999); (Gwyn, Elwyn 1999); (McDonald, 1998). Why has so much work been done on group processes? Because, in short, it allows developers to improve the products teams use for decision-making.

But the majority of this research deals with the internal processes of the groups and very little focuses on the “input” components. Much of it views the group employing a standard Input-Process-Output (IPO) model. Although there are many variations on the IPO model, all of them have a significant drawback – the level of reduction. The model is so generic that when we break it into its constituent parts we find that many of the input components are difficult to define. In other words we find that they are infinitely decomposable. A better set of constructs has to be found to more accurately describe the inputs to technology supported group work to improve the outputs. Towards this end Briggs developed in his dissertation a model that he describes as a “parsimonious, bounded, general causal theory of group productivity,” the Focus Theory of Team Productivity (Briggs, 1994).

This research proposes to explore one aspect of focus theory, goal congruence, and more specifically how GSS influences perceived-effort-available. The preliminary hypothesis is that effective use of GSS can increase perceived effort available. This in turn should lead to an increase in self-efficacy and therefore an increase in productivity.

Background

Gaining a greater understanding of the factors that influence the outcomes of teamwork, especially technology supported teamwork, may lead to an enhanced understanding of how to predict and influence the quality and consistency of those outcomes. This will lead to the development of better tools and better practices for using those tools. Understanding the relationship between perceived effort available and GSS should help group theory researchers better understand technology supported group work processes and potentially help validate a promising model.

Focus theory boils down to the following: the work of teams is a function of their cognitive effort over time (attention) which is focused into the three major processes—communication, deliberation and information access. Any increase in one would result in a decrease in the other two (since the base assumption is that attention is a limited resource).

The input, goal congruence (the alignment of personal vested interests with the stated goal of the team), adds to the team's ability to focus its cognitive effort. The construct of distractions reduces the focus of attention on the major processes and therefore reduces the team functioning. The outcome of team activity is productivity (the degree to which teams reach their stated goal).

According to Briggs' theory, the productivity of a team is directly correlated to how closely the self-interests of the team members are aligned with the goals of the team.

The basis of goal congruence is the assumption that people prefer to conserve attention resources. Briggs' propositions are as follows:
Figure 2. The Mechanisms of Goal Congruence

- The level of attention expended is a function of the perceived level of effort to achieve a goal.
- The relationship between perceived-effort-required and effort is moderated by the degree to which the team members desire to achieve the team’s goals.
- The relationship between the perceived-effort-required and effort expended is moderated as an inverted-U function of self-efficacy. (Self-efficacy is the perceived probability that one will achieve a goal if one makes the required effort.)
- Self-efficacy is a function of an interaction between perceived-effort-available and perceived-effort-required.
- Perceived-effort-available is a function of desire for the goal.
- The perception of the level of effort required is a function of the perceived difficulty of the task.
- Desired level of certainty of success is a function of desire for the goal.

These propositions are based in part on the theory of reasoned action developed by Ajzen & Fishbein (1980) as extended in the theory of planned behavior (Ajzen, 1985), (Madden, Ellen, Ajzen 1992). These theories posit the correlation of attitude and subjective norm on behavioral intention, an antecedent to behavior. The theory of planned behavior adds the construct of perceived behavioral control. These theories also explain goal congruence by showing that the perception of having the resources (skills, time, etc.) necessary to perform the task (perceived effort available) influences the motivation for and the behavior of achieving the goal.

Additionally, I believe that perceived effort available is affected by the level of trust among the team members. Research indicates that trust does not directly influence group performance (Dirks 1999). However, the same research found that higher levels of trust translated into greater motivation and better group processes and performance.

**Methodology**

It is unreasonable to expect to be able to track and account for all of the constructs of goal congruence at once. I propose to explore how a GSS can be used to increase the perception of effort available and thereby increase self-efficacy.

At this time it appears that an approach would be to give teams a task (one too large to be accomplished individually) and to survey the teams as to their desire for the goal, certainty of success, perceived-effort-available, perceive-effort-required, self-efficacy and perceived productivity. Next the teams would be given a GSS tool (ideation, idea organization or voting) and taught to use the tool to accomplish a different task (simply as a way of exposing them to the potential of the tool). A post exposure survey using the original task but as solved by a GSS would measure the same constructs.

Results of the two surveys would be compared to isolate the impact of using GSS tools on the perceived-effort-available.

**Conclusion**

This is a preliminary paper on research into a relatively unexplored theory, The Focus Theory of Team Productivity and specifically the input of goal congruence. Understanding how GSS influences the constructs of goal congruence can lead to the development of better tools and increase our awareness of how to better use the tools that have been developed. This research posits that perceived-effort-available can be increased by using GSS tools.

**References**


