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Qualitative Study: Informal Problem Solving

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Reference

Mangrum, F. G., Fairley, M. S. & Wieder, D. L. (2001). Informal problem solving in the technology-mediated work place. The Journal of Business Communication, 38(3), 315-336.

I. Context

The research carried out by Mangrum, Fairley, and Wieder was an ethnographic study, spanning a period of three years. Its purpose was to look at informal problem solving (IPS) techniques in a high-tech workplace, to see if and how the relationship of face-to-face communication is affected by technology. The authors define IPS as some persistent form of interpersonal interactions, such as walking from ones desk to another's, in order to have a question answered. The authors also cite some mixed, but generally bleak, views of technology's impact on in-person communication, and thus, IPS. Some researchers claim the increase in high-tech workplaces will decrease the need for face-to-face communication and IPS, while others disagree, stating that even technology requires a certain level of human communication to ensure fluid workflow.

This study was focused on gatherings where problems are solved in-person, by employees. IPS meetings are considered any meeting that involves few workers, unplanned, hidden, and ad hoc. These meetings are generally unnoticed by workers, who had since been recognizing these gatherings as something other than informal problem solving. The authors make a clear distinction between IPS and 'the grapevine', which is more of a kind of communication that involves lower-level topics, with purposes more suited for socialization. While the grapevine can help employees in different ways, such as lowering anxiety, bringing together group members, and general mingling, it is not related to IPS meetings for the purposes of this study. The authors also point out the difference between focused and unfocused IPS meetings. These gatherings, which must involve two or more people present, if not sustained for any considerable length of time, is considered unfocused, whereas those with topic focuses and sustained lengths of time are deemed focused. The authors do not quantify these lengths of time; it is left unformulated.

To perform this research task, the authors gained the help of Integrated Technologies, a high-tech organization in Lubbock, TX, that makes circuits and computers. Interviews and tours were carried out by an unnamed researcher, who asked key persons about employee communication. Using that information, she honed her questioning to problem solving techniques. These questions were asked to several participants, spanning at least nine different positions. The details of these conversations were written and not taped. Afterwards, it was determined that the company's semiconductor division in Sherman, TX would be the focus of the crux of the study. Participants again included several positions, some similar to the broader questionings, others not. Data gathering here included the observation of large formal meetings and small quality circle meetings, in-office administrators, and operators in production. The quality circles and administrators were recorded on tape, while the others were hand-written. After this touring, the researcher spent three days interviewing and tagging along, writing when walking and taping when stationary. In the office of the manager, everyone who entered during this timeframe had their conversations recorded. This procedure was repeated in 30 additional offices.

For comparison purposes, the researcher performed these methods at three other industries, which included the director of PR at a high-tech petroleum company, an HR rep at a non-high-tech petroleum company, and line workers at tire plant. The fuel company's high-tech status was due to their computer network for communication, whereas the tire plant's high-tech status involved robotics. The commonalities among all four organizations were the idea of continuous-process manufacturing and the use of informal problem solving.

Immediately, there was an observed discrepancy between what was occurring and what employees perceived. Generally, employees felt communication was streamlined through their technological communication systems, and that face-to-face communication occurred only when problems or "misprocesses" arose (more on misprocesses below). They also cited software as being a kind of 'cure-all' that reduced or eliminated the need for interpersonal interactions. However, the researcher observed a strong trend that suggested this high-tech quality only provided more topics for IPS gatherings. The authors provide an example transcription of roughly 210 minutes of IPS that centers upon

computer-provided information, but which is discussed in-person across several employees.

The study showed informal face-to-face communication was critical to the shared efforts of employees in a high-tech organization. While employees had the belief that their technologies reduced the need for such interactions, their reality was in strong contrast. Misprocesses, which include miscommunicated and uncommunicated specification changes, were not referred to as such by employees. They saw these occurrences as being technically-related and not communication-related. Regardless, their rectifications were typically carried out through IPS gatherings.

The authors conclude the study by reiterating the characteristics of informal problem solving – brief, little or no lingering chat, ad hoc, may or may not lead to a formal meeting – including other matters such as spatial issues and external stimuli. They also claim further research is needed that might lead to formal training on IPS.

II. Quality

I would consider the study to be dependable in the methods utilized by the researchers. At a basic level, the procedures of the primary researcher appear sound. By member checking (providing transcribed information to the employees) the authors help lower the reader's assumptions by clearly demonstrating subject participation and approval. Triangulation, through observation and direct questioning, as well as a wide-spanning pool of sources and subjects, helps establish credibility; what furthers this is the studies extended period of engagement.

The subject of the study is possibly the most important aspect, and therefore most deserving of critique. The authors clearly categorize the commonplace practice of routine, informal communication as the term 'IPS'. What the study further carries out is the discovery that employees mislabel or misunderstand this phenomenon, that employees' beliefs of what constitutes 'problem solving' doesn't align with the authors' definitions. When workers were asked about their informal communication regarding misprocesses, they answered that the problems – and solutions – were high-tech based, and the authors shed light on the fact that the *topic* was in fact high-tech related, but their IPS was face-to-face, ad hoc, etc.; that is, that they were IPS gatherings. The authors

even provide transcriptions to illustrate this point, where employees are observed in discussions, unaware that their informal and hypothetical talks are considered by the authors to be problem solving interactions.

Contrary to my initial ideas about the study, the findings are indeed relevant. However, questions linger. The authors hint at some kind of involvement with the employees, in observation and direct interactions, but I am left to wonder why other techniques weren't used, to keep the researcher more behind the scenes. Was her presence necessary, in-office, to obtain data, or could the recording systems have been left to do their job unsupervised? If so, did her presence influence employee communication? The authors repeatedly claim IPS is devoid of social focuses, but I wonder who might stand directly in front of an outsider and discuss their weekend with a friendly colleague. Also, the authors make no claims about the researcher *not* assimilating over her extended engagement. Just as law enforcement pulls undercover employees when they 'get too deep', the researchers may or may not have allowed their primary investigator to embed herself so intensely that their credibility had become polluted.

In terms of transferability, I'm not sure that this study is easily relatable. As the authors mention spatial issues and external stimuli, it seems there are too many factors not discussed that might prevent transferability. Even here, the authors broadly brush over these factors and don't discuss the comparisons across their chosen industries in-depth enough; there simply weren't enough thick or rich descriptions. But even to conclude that people do in fact have informal discussions at work, despite there being so much technology around them, simply does not appear as insightful.

III. Ethics & Politics

The authors provide a clear description and definition of informal problem solving early in the study, which lead the reader to believe that there's a fitting structure to this phenomenon. Once IPS has been run through its rigors, it is concluded that IPS gatherings are in fact equally important in high-tech workplaces as they are in low-tech workplaces.

As is the case in many studies, further research is claimed. But peculiarly, training on IPS gatherings is also called for. Despite the fact that training would instantly transform informal problem solving to formal problem solving, nullifying each process, the authors make the claim without any real justification or reasoning. How or why training would work is not provided, neither are the benefits of such instruction. And why interject in IPS at all? While other studies might have simply concluded with their results and the typical 'more research' claim, Mangrum, Fairley, and Wieder avoid disclosing their own assumptions and purposing, and loosely suggest 'train on it'. This issue is a bit of a microchasm, because none of the authors come from training backgrounds, and so their suggestion should be more carefully scrutinized.

Another issue that might have affected this study is the way Integrated Technologies agreed to be subjected. This was not disclosed by the authors, but it may be the case that management at IT might have had the ulterior motive of wanting to cut down on or figure out what kinds of informal communication was happening at their organization. If the organization was worried about firmly managing or concerned about 'chatting', they may have been more inclined to agree to this study. It's almost as if a secondary, undisclosed conclusion of this study, targeted directly at IT management, was: "informal face-to-face communication that occurs at your plant is not in fact chit-chat, but rather problem solving techniques that benefit your company". I don't believe this issue would be too serious of a problem, but it is an issue nonetheless.

IV. Paradigm

This study, executed in a qualitative fashion, is wholly suited in the qualitative paradigm. Ontologically, the study is heavily reliant on the reality perceived by its subjects compared to the observed reality, best exemplified by the difference between what researchers considered to be IPS gatherings versus the employees' contrarian views. However, the authors so vaguely define IPS that participants were almost completely prevented from understanding how best to categorize their actions and statements, i.e. an IPS gathering, or not. Thus, the researchers can more readily claim that their subjects are "defying predictions", furthering complex and dynamic social interactions, etc. While this may sound more like a critique of the study, this observation is to set up the idea that

the research study has an inherent mechanism that *forces* its placement under qualitative ontology. The researchers were able to mold it in such a way that a difference between perception and observation *had* to exist. While the perceptions of the employees could have naturally been formed in a way that agreed with the observations instead of opposed (i.e. understanding that workers' actions were in fact IPS gatherings), the actual outcome – maybe manipulated by the researchers, maybe not – conveniently strengthens the argument of qualitative ontology.

Epistemologically, the study is also qualitative in that it has created its own meaning through researcher participation and firsthand experience. This also touches upon the studies qualitative methodological choices, in that the primary researcher engaged herself personally, in the natural IPS settings of the workforce. As mentioned earlier, the prolonged meetings, overarching timeline, and frequent reflections reinforce the studies qualitative nature. The study could have easily been carried out differently, with different methods and different assumptions, which would have quickly lent itself to quantitative analysis. But as it is, these characterizations strengthen the studies overall quality, especially in terms of credibility and dependability.