

When Less Is More: Exploring the Relationship Between Employee Workload and Innovation Potential

Workload and Innovation

The systems, practices, and norms of knowledge-based organizations tend to value workers who spend long hours at work. This work culture has persisted for two reasons. First, since there are no clear, unambiguous criteria of performance for knowledge workers, it is hard for managers to judge the quality of their output. Given that such judgments have to be made, managers often place great emphasis on substitute indicators, such as hours worked, as evidence of output and commitment.¹ Second, managers tend to believe that more work leads to better business outcomes.

However, equating employee performance with long work hours favors workers with partners to handle their private sphereresponsibilities or workers without major responsibilities outside of work. Business leaders often realize this organization of work is difficult for employees, but believe that employee quality of life and business goals are at odds with one another.² Here I describe research showing that heavy employee workload is not necessarily more effective. In fact, it is associated with the poor business outcome of reduced employee innovation potential.

To explore the link between workload and organizational effectiveness, five colleagues and I conducted a study at a scientific research center focusing on international development. In this organization, multidisciplinary teams of knowledge workers and support staff work with researchers in developing countries to address specific problems and set research agendas. Employee innovation potential is a core competency of this organization, which not only specializes in the production and distribution of knowledge through research, but considers itself at the cutting edge of research in the developing world. Since innovation potential is so clearly linked to business outcomes for this organization, and since previous research had identified workload as a problem for its employees, this organization provided a good site to test the link between workload and employee innovation potential.

Prior research on the link between organizational work practices and creativity

Prior research in the area of employee creativity, defined as the production of new and useful ideas at work,³ suggests that work practices and structures are linked to employee creativity. While several researchers have

examined situational and environmental characteristics that affect creativity at work,⁴ Amabile has advanced the most comprehensive model of working conditions and innovation.⁵ She has investigated a number of influences on creative behavior, such as t a s k

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particularly if such pressure is perceived as an externally imposed means of control.⁶ Amabile suggests that creativity depends on three components: expertise, creative-thinking skills, and intrinsic motivation.⁷ Expertise includes the knowledge and technical abilities that individuals have and can use in the broad domain of

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their work. This expertise is important because “it can be viewed as the set of cognitive pathways that may be followed for solving a given problem or doing a given task—the problem solver’s ‘network of all possible wanderings.’”⁸ Creative thinking refers to an individual’s capacity to put existing ideas together in new combinations as part of his or her problem solving approach. Creative thinking skills include “taking new perspectives on problems, an application of heuristics for the exploration of new cognitive pathways, and a working style conducive to persistent, energetic pursuit of one’s work.”⁹

Amabile further suggests that while expertise and creative thinking are the raw materials for creativity, individual intrinsic motivation determines what people will actually do. Intrinsic motivation is an individual’s passion and interest, the internal desire to do something. When people are intrinsically motivated, they engage in their work for the challenge and enjoyment of it. In her “intrinsic motivation principle of creativity,” Amabile suggests “people will be most creative when they feel motivated primarily by the interest, satisfaction, and challenge of the work itself—and not by external pressures.”¹⁰ She suggests that en-

vironmental factors that lead to individual feelings of control or competence should contribute positively to creative performance because they support an individual’s intrinsic motivation for his or her work.¹¹

Our study on workload and employee innovation potential

Using data from one knowledge-based organization, we explored in greater depth the link between organizational work practices, heavy workload, and individual creativity. Our findings are based on a survey of the organization’s staff, as well as interviews with a subset of employees. Prior research on creativity has already identified particular work activities that foster innovation. The survey responses (see Table 1) indicate clearly that the majority of staff feel they have little time to engage in such work activities.

In order to measure workload, we looked not only at actual time worked (in hours and days) but also at how workload was experienced by staff. In interviews, staff described their experience of heavy workload using vivid language: “I almost always take work home and work on most weekends. I’m not sure how much longer I can continue at this pace.” “The workload is too extreme and I am

reaching my breaking point.” “I feel like I am always running behind” and “I feel as if I am being pushed to the wall.” In order to capture the experience of workload, we constructed a “workload index” (see Table 2). The data indicate that the majority of staff sees workload as a problem in the organization and as a problem for themselves.

The key question is: How does the workload index connect to innovation potential? Our analysis indicated a statistically significant negative correlation, meaning that those employees with higher experienced workloads were less likely to feel they had the supports they needed for innovative work. *Contrary to many managers’ assumptions that workload is a good indicator of employee output, our research shows that as their workload increases, workers report that their capacity for creative work decreases.* These data challenge the widely-held belief that a bigger workload leads to better performance. This negative effect of workload on employee innovation potential is particularly important in organizations where research and development are the keys to business success.

Reducing workload and increasing innovation potential

Once an organization’s leaders know that heavy workload can reduce employee innovation potential, how can they implement change efforts to both decrease workload and enhance creativity? They can begin by uncovering the organizational work practices which appear to drive an increased workload. We found five key orga-

Table 1: Employees’ Perceptions of Factors Relating to Innovation Potential

Indicators	Overall agree
<i>During regular work hours, I have time to:</i>	
Stretch my abilities	48
Persevere through problems	43
Explore new areas of work	22
Build knowledge and skills	20
Reflect and think creatively	19
Concentrate for long periods of time	9
Gain distance from my work	9

nizational practices that were significantly positively correlated with experienced workload and negatively correlated with innovation potential, meaning that these practices contribute most to excess workload and reduced creative potential.

Interruptions. In interviews, staff told us that they got their substantive work done at home “because it is too disruptive in the office.” In the survey, about two-thirds of staff agreed that interruptions make it difficult to finish work.

Too much change. More than half of staff suggested that the organization’s frequent changes in work priorities, systems and operating procedures increase demands on their time and their experienced workload. These changes are exacerbated by changes in job design, with almost half the staff feeling that the skills valued for their position now are different from those valued when they were hired. In describing this factor in the interviews, staff used phrases

such as “nothing seems to be settled,” and “everything is always changing, but we need some basic parameters.”

Crisis-driven atmosphere. This work practice relates to coping with crises, unexpected demands, and deadlines. As one staff member put it, “everyone knows the deadlines, but we can’t get what we need in time and are always scurrying around at the last minute.” Another said, “I often get requests for reports, workplans, and information. These unexpected demands from managers cause me to spend more time responding to others’ priorities than my own.” Half the staff indicated that they spend a significant amount of their time dealing with crises, and that unexpected demands from managers make it difficult for them to finish their work during regular office hours.

Lack of clarity. Nearly half of the staff felt that the organization’s operating and information systems interfere with work processes and result in unclear performance criteria and division of labor. As one staff mem-

ber said, “I get a lot of mixed messages about what the organization wants. This means that I am trying to respond to diverse objectives and targets. It would help if we had greater clarity about outcomes desired and how performance will be assessed.”

Coordination. As in many research and development organizations, this one does the majority of its project work in multidisciplinary teams. As a result, the time demands of coordination came up frequently in interviews. One team member said, “There is a lot of back and forth of opinions before getting anything done. It has been made so democratic that it is hard to accomplish anything.” In the survey, most staff reported spending a significant amount of time responding to requests for input, coordinating and planning with others, and making decisions within their work group.

Our survey analysis shows that employees feel these work practices increase workload and decrease innovation potential. These findings were echoed in the interviews:

- “It is hard to get time for any serious piece of thinking or writing. I would like some concentrated periods. But I need to be juggling a lot of balls a lot of the time.”
- “Other demands are taking up my time and squeezing out my ability to provide good intellectual leadership on my team.”
- “You need head space in order to have creativity. We do not have this. If you lose space and time to think, you become less innovative.”

Table 2: Workload Index

Indicators	Overall score
Workload is a problem at this organization	82
Workload is greater than regular hours	71
I take on more than possible in regular work hours	69
I often feel like I am running behind at work	64
Workload is a problem for me	60
I am expected to work extra hours	54
It is necessary for me to work through lunch to get work done	50
Workload interferes with work-personal life integration	46
Workload problems impair quality of my groups’ work	40
I routinely take work home and on weekends	39
I do not feel my current work hours are sustainable	34

These data suggest a strong link between these five work practices, high workload, and decreased creativity. But why would these work practices be so influential? Amabile's work on creativity suggests that organizational factors which increase individuals' feelings of control over their work are critical to maintaining or enhancing intrinsic motivation, which in turn improves creative performance.¹² In support of her theory, our survey results suggest that interruptions, too much change, crises, lack of clarity, and coordination demands all contributed to an individual's sense of lack of control, which then led to a reduced sense of innovation potential. In the interviews, one individual said, "I feel out of control from too much work." Another said, "I need control over my time in order to stay focused." Therefore, organizational efforts to enhance creativity should identify and change work practices that are decreasing employees' control of their work.

Conclusion

Many organizations reward long hours because they believe that more work leads to better organizational outcomes. Through an analysis of workload and innovation potential at a knowledge-based organization, we have questioned this truism. In this organization, as employees' workloads increased, their innovation potential decreased. In the current global marketplace, where creativity

is often the key to success, this finding could be crucial for knowledge-based organizations. By identifying specific work practices that contribute both to heavy workload and lack of control over work, organizational leaders can craft a work culture that values the behaviors they truly need rather than the behaviors that are most easily measured.

This research also questions the basic and broader assumption that enhancing employees' quality of life inevitably results in lower effectiveness. Rather than being mutually exclusive, the goals of employee well-being and the organizational bottom line may well be complementary. Is more work always better for the organization? No. It appears that less can be more, at least in the arena of creativity and innovation.

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References

¹ Bailyn, L. 1993. *Breaking the Mold*. New York: The Free Press.

² Bailyn, L., Fletcher, J.K., and Kolb, D. 1997. Unexpected connections: Considering employees' personal lives can revitalize your business. *Sloan Management Review* 38(4): pp.11-19.

³ Amabile, T. 1996. *Creativity in Context: Update to "The Social Psychology of Creativity."* Boulder, CO: Westview Press.

⁴ Oldham, G. R. and Cummings, A. 1996. Employee creativity: personal and contextual factors at work. *Academy of Management Journal* 39: pp. 607-634.

Shalley, C. E. 1995. Effects of coercion, expected evaluation, and goal setting on creativity and productivity. *Academy of Management Journal* 38: pp. 483-503.

⁵ Amabile, T. 1996.

⁶ *Ibid.*

⁷ Amabile, T. 1998. How to Kill Creativity. *Harvard Business Review* (September-October): pp. 77-87.

⁸ Amabile, T. 1997. Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review* 40(1): p. 42.

⁹ *Ibid.* p. 43.

¹⁰ Amabile, T. 1998. p.79.

¹¹ Amabile, T. 1996.

¹² *Ibid.*

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