

Using Task-Quotient[©] (TQ) to maximize individual motivation & job satisfaction

Dr. Kevin D. Gazzara – Intel Corporation
5000 West Chandler Blvd.
Chandler, AZ 85048

Abstract - This paper describes the quantitative research conducted at a major semi-conductor manufacturer which demonstrated that the closer the mixture, or Task-Quotient[©] (TQ), of 3 task types, 1) routine (repetitive), 2) troubleshooting (problem solving) and 3) project (planning) tasks, aligned to the individual's preference, the higher the individual's level of satisfaction. Also provided are methods to evaluate and implement change in an organization, based upon TQ alignment, to meet individual needs.

I. INTRODUCTION

This paper is based upon the research conducted by Dr. Gazzara for completion of his doctoral dissertation on *Determining and aligning employee ideal task mixture, or TQ, at work to maximize individual productivity and job satisfaction* (Copyright 2002). Based on the data collected from the study it was proven that, with statistical significance (p value = 0.00), identifying and aligning an individual's ideal task mixture (TQ) to job activities created a higher level of job satisfaction.

Employees do not recognize or understand their ideal task mixture, which could allow them to obtain/maintain optimal job and personal satisfaction. This non-ideal/non-optimized condition can translate into reduced job performance and additional managerial overhead, since employees do not have the ability to self-monitor and self-motivate themselves using TQ in their own work environment. Personnel managers identified that "Lack of employee motivation is the most troublesome problem they face, 69 percent of operating managers said that "lack of employee motivation" is the most annoying problem in their organization, and small-business CEOs reported that motivation is the human resources issue that takes up the most of their time" (Spitzer 1995, p. 3). Applying TQ as an organizational effectiveness tool at an individual or team level, can be used for organizational design and restructuring, transition management, team development, or determine job fit for existing and new employees. This research and the verification simulation have been delivered to several organizations within the United States and Japan.

II. THE TASK-QUOTIENT[©]

Conducting business today that provides products faster, better and cheaper is critical to an organization's growth and even to its survival. Doing more with less, through organizational efficiency, has become a visible mantra over the past century. Raising individual and group performance and satisfaction can provide advantages from a mere survival tool to one that is a substantial competitive edge. Current global conditions have flattened organizations with fewer managers who are expected to manage more people, and with individual contributors who are expected to produce more in less

time and reduced resources. "Products can be copied. Technology and training can be duplicated. No one, however, can match highly charged, motivated people who care" (Pasternack & Viscio, 1998, p. 63). Today's workforce is working harder and more hours with diminishing support structures. In addition to the increased expectations, there is a continuous discussion and encouragement to improve work-life balance. "There is a motivation crisis in American industry, and the symptoms are all around us: low productivity, quality problems, poor customer service, costly accidents, high absenteeism, increased violence in the workplace, and declining morale, to name but a few" (Spitzer 1995, p. 3). New and innovative tools are needed to help us work smarter, not just harder. The need to significantly improve work-life balance and at the same time improve productivity should be of paramount concern.

Have you ever been presented with a situation, at home or at work, with a request to perform a task in which you said to yourself, "I just don't feel like doing that right now"? If so, your internal rhythm that tries to regulate the task types that intrinsically motivate you (tasks that you engage in for enjoyment value, not for external rewards) may be trying to tell you something. "We believe that intrinsic motivation must be present if people are to do their best" (Kouzes & Posner, 1995, p. 40). Based on staffs I have managed over the past 20 years, I found that most of the staff members knew what they liked to do in general, but had little ability to understand the importance of task balance and rebalance to raise or maintain their motivation. This research identified a formula that allows individuals to understand and influence/regulate their TQ, so that they could maintain the highest level of individual intrinsically motivated satisfaction at work. "Intrinsic motivation, or engaging in a task for its enjoyment value, is one of the most powerful forms of motivation" (Deci & Ryan, 1987, p 1024). Human beings are motivated intrinsically and extrinsically, yet intrinsic motivation provides a deeper sustainable condition than extrinsic motivation.

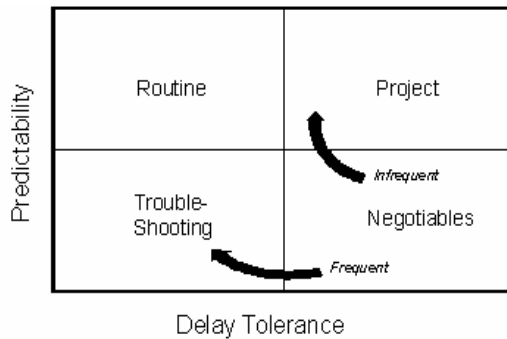
The TQ assessment tool allows people to continuously monitor and change their working environment to optimize what motivates them. Creating and maintaining sustainable effective and efficient organizations continues to define an organization's level of success in today's world economy. According to a large-scale national survey of American workers, "The first and perhaps the most important complaint concerns the lack of variety and challenge" (Csikszentmihalyi, 1990, p.161). Identifying a supported method to define optimal job task- type mixtures is the objective of this paper.

III. UNDERSTANDING TASK TYPES

In order to understand optimal mixtures of task types we must first define the different task types. Per Bill

Daniels, in his book Breakthrough Performance, he states that all of the activities/tasks that we do can be broken down into 4 task types see graph 1- task types:

1. Routine - repetitive tasks are those that are highly predictable and have a low delay tolerance (must be accomplished immediately).
2. Troubleshooting - problem solving tasks are those that are highly unpredictable and have a low delay tolerance (must be accomplished immediately).
3. Project - planning tasks are those where they are highly predictable and have a high delay tolerance (does not have to be accomplished immediately).
4. Negotiables - These tasks have high delay tolerance, but have low predictability. Daniels says that these tasks, when they are frequent, should be considered Troubleshooting tasks, and infrequent; they should be considered Project tasks.



Graph 1. Task Types

Note: Graph 1 illustrates the four task types, each defined by the two functions of predictability and delay tolerance (the amount of time that the task can be ideally delayed before it is performed). The "negotiables" task type is redefined as a troubleshooting or a project task depending on the frequency of the occurrence (Daniels, 1995, p. 61).

TQ is defined as the total combination of 3 tasks, routine (repetitive), troubleshooting (problem solving), and project (planning) tasks, performed collectively equaling 100% of time. There are 496 different combinations of TQ.

IV. Rhythms

The next time your internal rhythm defocuses you on your current activity ask yourself, 1) what type of task am I doing currently, and 2) have I been doing too much of that same type of task recently? I think you will be surprised. This is the reason that we do not want to do hundreds of routine e-mails at a single sitting and conversely it is the same reason we have that urge to break away from deep extended problem-solving or planning activities and we actually want to do e-mails for immediate gratification. This is the way

we self-regulate our internal task rhythms and feedback/gratification systems. The problem arises when we try to vary the list of activities without trying to vary the task types. We often only change tasks without changing task types, which fails to provide the feedback for improved motivation and satisfaction that our internal rhythm is telling us to seek. By modifying our work environment to align with our Task-Quotient on a regular monthly, weekly, daily basis we can raise our level of motivation and satisfaction. It may not even be necessary to change what we do, but just change the sequence and length of time we do each type of task.

V. HOW TQ WAS IDENTIFIED AND MEASURED

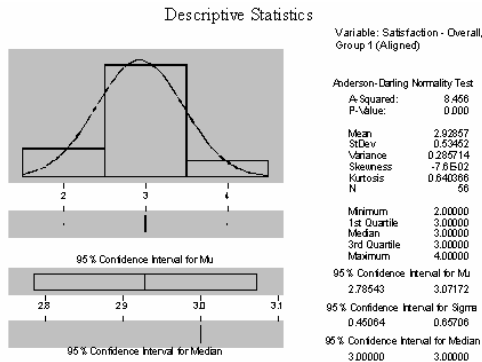
TQ is identified through a 15-question pre-assessment that takes about five minutes to complete. The process to prove the hypothesis of "To what degree does the combination of task types influence satisfaction" was straightforward and conducted as follows. Step 1) 112 volunteers completed the TQ pre-assessment questionnaire to identify their ideal task mixtures. TQ results were not shared with the volunteers until completion of step two. Step 2) The 112 volunteers participated in a one-hour session where they were asked to complete three different tasks in thirty-minute period. For half of the participants, the times to complete each of the routine, troubleshooting, and project tasks, were allocated based on their preferred TQ, as identified in their TQ pre-assessment, this group of participants was defined as the "aligned" group. For the other half of the participants their highest and lowest TQ individual task preference percentage was switched, this group of participants was defined as the "unaligned" group. Lego© type building blocks were used for each task and times for each activity were predetermined for the thirty-minute activity.

Once the thirty-minute activity was completed, a seven-page questionnaire was used to capture level of performance, satisfaction, flow, and demographic information. The results showed that there was a statistically significant higher level of satisfaction for the participants in the aligned group, vs. the unaligned group. Although there was not a statistically significant difference in performance from the two groups, it is believed that if the thirty-minute simulation was to be extended for longer duration, or applied within actual work environment, that the performance level of the aligned group would be statistically higher than the unaligned group.

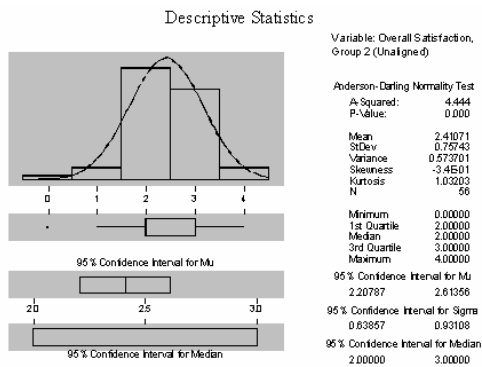
VI. Results and Analysis

The data suggests, leadership that provides individuals with a variety of tasks retains or improves levels of satisfaction more than those who do not provide such a variety. Providing a variety of tasks of only one type, unmatched to the employee's preferred mixture of task types, or TQ, does not necessarily create as satisfying of an environment. Supplying a variety of each type of task, rather than a variety of one type of task, creates a sustained or improved level of satisfaction. The currently collected data does not support that improved satisfaction had a direct correlation to improved performance and flow.

Aligning task-types and focusing on the mixture that optimally defines the job, provides a fresh new approach to transform organizations. Using a 0 to 4 point scale (0= extremely low, 1=low, 2= medium, 3=high, 4=extremely high) to rate satisfaction comparative results are shown in graphs 2 and 3. You will note that the aligned group resulted in a higher mean of 2.93 and a smaller std. deviation of .53, as compared to the unaligned group with a mean of 2.41, and a std. deviation of .76.



Graph 2. Aligned Group - Satisfaction Statistics



Graph 3. Unaligned Group - Satisfaction Statistics

VII. Demographics

- Male/Female - 51.2%/48.8%
- Age - < 20 = 1.6%, 20 to 29 = 43.1%, 30 to 39 = 30.1%, 40 to 49 = 22.0%, 50 to 59 = 2.4%, Undefined = .8%
- Race - Caucasian = 74.8%, Asian = 11.4%, Hispanic = 6.5%, Indian = 2.4%, African American = .8%, Other/undeclared = 4.1%
- Years in high tech industry - < 1 = 22.0%, 1 to 5 = 30.1%, 6 to 10 = 17.9%, 11 to 15 = 13.0%, 16 to 20 = 9.8%, >20 = 6.5%
- Years at this company - < 1 = 29.3%, 1 to 5 = 34%, 6 to 10 = 17%, 11 to 15 = 12.2%, 16 to 20 = 6.5%, >20 = 0%

- Education - High School = 3.3%, Associate (some college / technical degree) = 18.7%, BS = 35.0%, MS/MBA = 39%, Ph.D. = 2.4%, Undefined = 1.6%
- Position - Manager = 26%, Individual Contributor = 74%
- Profession - Technical = 53.7%, Non Technical = 46.3%
- Work Type - Exempt = 82.11%, Non Exempt = 17.89%

VIII. Correlations

Correlations analyzed all the independent demographic variables above and each of the dependent variables of satisfaction, performance, and flow. There was only one combination that showed any statistical significance ($p = 0.05$) ($SD = .3838$) which was for the for work type, exempt workers vs. non-exempt workers. Non-exempt worker performance, ($M = 3.89$) vs. Exempt worker ($M = 2.33$), represented a 60% difference. There are two variables that could contribute to this significant difference, (1) the sample size difference non-exempt ($N = 22$) vs. exempt ($N = 101$), (2) the nature of the experiment tasks. The experiment tasks were all manual and performance has a dependency on dexterity, which was more closely aligned to a non-exempt (hourly) position. All other relationships had no significant correlations to each other or to any of the dependent variables of satisfaction, performance, and flow.

Of the 496 possible TQ task type combinations, the testing of the 112 participants yielded 68 different profiles. 27 participants had TQ profiles that were the same as at least one of the other participants. Groupings of identical TQ profiles were a maximum of 1 group of 6 participants.

Task Types	Average Profile	Minimums	Maximums
Routine	25%	3%	53%
Trouble-Shooting	29%	7%	53%
Project	46%	27%	63%
Total	100%	N/A	N/A

Table 1. TQ Distributions

There was no single TQ profile fit that emerged for any specific type of employee from the research testing.

IX. Background of the Problem

It is difficult to determine direct cause and effect correlations with a large number of variables, although quantifiable and measurable, that can contribute to different levels of satisfaction and performance. Job redesign is currently used to create more efficient and effective processes without assessing the worker's optimal mixture, or TQ, of the three types of tasks. The inattention to worker needs contributes to increased levels of worker unrest and job dissatisfaction. "Organizations of today would be

wise to critically evaluate their current systems and practices for attracting, developing, and retaining human capital" (Hesselbein, Goldsmith, & Beckhard, 1997, p. 210). I have observed that workers with similar knowledge, skills, experience and personality profiles can be placed into identical jobs with significantly different levels of individual satisfaction and job performance. "America's business problem is that it is entering the twenty-first century with companies designed during the nineteenth century to work in the twentieth. We need something entirely different" (Hammer & Champy, 1993, p.30). Providing tools that can be utilized as a regular portion of a job, embedded as part of the work process, rather than being addressed as annual, or infrequent, singular events provides a process entirely different from one that is being currently used.

X. Applying TQ in the work environment

Once you have completed a TQ pre-assessment determining your TQ, identifying and modifying your current work mixture can be accomplished in two ways:

1) Work with your supervisor to modify your current tasks split to align with your TQ as much as possible. Statistically, the research proved that the closer the actual task split matches the individual's preferred TQ the higher the level of individual satisfaction.

2) Listen for your internal rhythm. Each of us has a different tolerance level of durations to perform each type of, routine (repetitive), troubleshooting (problem solving) and/or project (planning) task, which may be minutes, hours or even days. Most people find that the duration is in periods of hours or fractions of an hour. When you have opportunities to structure your job tasks, arrange them so that the mix as closely as possible matches your ideal rhythm. When your rhythm slows down, or it is broken, make sure that you change to another task type not just a different task of the same task type that you are currently doing. "So often the problem is the system, not the people. If you put good people in bad systems, you get bad results" (Covey, 1989, p. 232). Adjusting your system, or rhythm, to approach your preferred TQ will allow you to attain or maintain the intrinsically motivating input that your internal rhythm is providing you the feedback for change.

XI. Conclusions and Recommendations

The twenty-first century work environment has changed more in the last 10 years than it has in the previous 100 years. Leaders of organizations should be providing the tools to managers to allow structured autonomy creating a competitive organizational edge. There is an advantage to supply employees the right tools to adjust their work to maintain or increase their level of motivation and satisfaction. This new environment is one in which the employees can self-monitor their own satisfaction and performance, and independently or collectively influence necessary change. The advantage to management is that this process shifts the burden of tactical management from the manager to the individual. As a result, this self-assessed and self-managed task environment will

provide the time and the opportunity for leaders to lead and managers to manage from a more strategic perspective without being mired in the tactical execution details.

It is recommended that the systems, which need to be put in place, not be rigid, but nurturing to support an open and continually improving environment, in which all levels of an organization share assumed responsibility. "The function of leadership is to produce more leaders, not more followers" (Hackman & Johnson, 2000, p. 90). Leaders that provide the tools for success create role-model behaviors for others to emulate on their on road to becoming leaders.

Creating a work environment that employees can understand, self-monitor, and influence the task-type mixture that is aligned with their TQ will raise the level of employee motivation and satisfaction. This can translate into improved great place to work scores and should lead to higher levels of productivity. "Do not try and change yourself - you are unlikely to succeed. Work to improve the way you perform" (Drucker, 1999, p.68). The process for this improvement is as follows: 1) Use the TQ assessment tool to determine individuals ideal TQ, 2) Assess your actual current and ongoing work conditions and, 3) Align your tasks split to match your individual preferred TQ at an individual level or through shared and rebalanced tasks at the group level. If used at the group level, improved group satisfaction should be achieved. Understanding the balance of task types that motivates you and allow your internal rhythm to regulate the timing, sequence, and duration of these tasks to create a high motivation environment can be a win-win situation for both you and your organization.

Employees want to do a good job; managers and leaders need to give employees the tools so that they can understand their own motivations, and a method for them to track their own performance. Application of TQ can allow the employees to make quick adjustments, satisfying their own intrinsic motivations without high levels of management overhead or involvement. This process change can unburden managers from the need to micromanage, and it expands the manager's available time to focus on more strategic long-term leadership activities for the organization. "Nothing can grow in a self-sustaining way unless there are reinforcing processes underlying its growth. Therefore, thinking strategically about initiating, sustaining and spreading fundamental management innovations over time requires appreciating the reinforcing process that could cause such growth" (Senge, Kleiner, Roberts, Ross, & Smith, 1999, p.42). Leaders should maintain a focus on providing and supporting the tools for individuals so that they can independently do the right things right on a daily basis.

References

- [1] Covey, S. (1989). *The seven habits of highly effective people*. New York: Simon and Schuster.
- [2] Csikszentmihalyi, M. (1990). *Flow*. New York: HarperPerennial. Daniels, W. (1995). *Breakthrough performance*. Mill Valley, CA: ACT Publishing.

- [3] Deci, E. L., and Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, 53, 1024-1037.
- [4] Drucker, P. F. (1999). *Managing oneself*. Harvard Business Review, Mar/Apr, Vol. 77 Issue 2, 64-75.
- [5] Hackman, M. & Johnson, C. (2000). *Leadership: A communication perspective*. Prospect Heights, IL: Waveland Press, Inc.
- [6] Hammer, M. and Champy, J. (1993) *Reengineering the corporation*. New York: HarperBusiness.
- [7] Hesselbein, F., Goldsmith, M. and Beckhard, R. (1997) *The organization of the future*. San Francisco: Jossey-Bass.
- [8] Kouzes, J. M. and Posner, B. Z. (1995). *The leadership challenge*. San Francisco: Jossey-Bass.
- [9] Pasternack, B. A. and Viscio, A. J. (1998). *The centerless corporation*. New York: Simon and Schuster.
- [10] Senge, P. M., Kleiner, A., Roberts, C., Ross, R. B., & Smith, B. J. (1999). *The dance of change*. New York: Doubleday.
- [11] Spitzer, D. R. (1995). *Super-Motivation: A blueprint for energizing your organization from top to bottom*. New York: American Management Association.