

Role of Personal Anxiety in individual Kaizen behavior and performance

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Abstract- Purpose- This research paper examines the role of personal anxiety on the individual kaizen behavior (workload, work-life balance) of knowledge workers. Also, it includes how anxiety, workload, and job insecurity impacts the kaizen's performance (knowledge management)

Design/Methodology- The data were obtained from a survey of 40 employees of three companies and then analyzed using Regression Analysis

Findings- The results show that anxiety has a significantly positive effect on individual kaizen behavior. Anxiety positively influences knowledge workers' initiative and perseverance but has a significant positive effect on kaizen performance. Job insecurity negatively impacts knowledge workers' performance.

Originality/Value- – This study contributes to kaizen and continuous improvement using motivation and incentive theory by focusing on individual kaizen, which is considered to be as important as knowledge worker-level kaizen, and investigating the relevance of personal anxiety in individual kaizen behaviors and kaizen performance.

Keywords- Workload, Worklife balance, Job insecurity, Continuous improvement, Individual kaizen, Personal Anxiety.

INTRODUCTION

In an interview by Nikkei Business (2006), Kan Higashi, who served six years as the first president of New United Motor Manufacturing, Inc. (NUMMI), stated that kaizen's introduction at NUMMI was a failure. NUMMI is a joint venture between General Motors (GM) and Toyota established in 1984 (Inkpen, 2008). Owing to the oil crisis, fuel-efficient Japanese cars became popular in the United States (Inkpen, 2008). NUMMI was established so that GM could acquire manufacturing technology from Toyota (Adler, 1995). Despite the favorable conditions for Toyota to introduce kaizen, they faced difficulties. Higashi described the reason as follows: "kaizen requires all the employees to work under the same philosophy focusing on quality improvement.

Regrettably, the mindset of GM's executives did not change" (Nikkei Business, 2006, p. 1). This is one of the many cases indicating kaizen implementation difficulties. Kaizen is a corporate-wide continuous improvement (CI) activity that eliminates waste from various business processes using employees' wisdom as the primary source (Imai, 1986). Kaizen is a core value of the Toyota Production System (Liker, 2004). The ideas generated by individuals and groups are proposed and implemented primarily through suggestion schemes (Imai, 1986). Although each idea's contribution is small, organizations can achieve significant and long-term quality improvements and cost savings through CI activities (Bessant and Caffyn, 1997). However, despite the concept's effectiveness and simplicity, kaizen is difficult to implement and maintain (Bessant and Caffyn, 1997; Brunet and New, 2003). Kaizen studies also indicate that it performs differently in Japan than in other nations (Robinson and Stern, 1998). The determinants for successful international kaizen transfer have been extensively studied, including cultural differences (Recht and Wilderom, 1998; Larsen, 2003; Naoret al., 2008), the presence of labor unions (Humphrey, 1995), and job security (Young, 1992). The aim of this study is twofold. First, it attempts to improve kaizen and CI theory by focusing on individual kaizen, as many existing studies assess knowledge of industry-level kaizen. It is considered that individual kaizen is as important as organization-level kaizen because it can enhance individual-level knowledge and problem-solving skills (Kerrin and Oliver, 2002) as well as vertical and horizontal communication at work (Imai, 1986). Accordingly, it can improve employee motivation and morale (Bessant and Caffyn, 1997; Cheser, 1998), achieving higher corporate performance. Second, this study contributes to the theory by investigating the influence of "personal anxiety" on individual kaizen performance. The initial idea comes from Imai (1986), who states the

following: “I was recently talking with a European diplomat posted to Japan, who said that one of the most conspicuous differences between the West and Japan was that between the Western complacency and overconfidence and the Japanese feelings of anxiety and imperfection. The Japanese feeling of imperfection perhaps provides the impetus for kaizen”(p. 32). Similarly, Parker and Slaughter (1988) find that workers at NUMMI are continuously urged to improve their performance using kaizen, leading it to be described as “the factory that runs on anxiety”. Recent studies argue that anxiety has a motivational function that can improve work performance (e.g. Strack et al., 2017). Their insights are interesting, as they challenge the prominent view that anxiety negatively influences work performance (e.g. Martens et al., 1990). However, the relationship between anxiety and kaizen is not verified.

Kaizen is a guiding principle of the Toyota Creation Framework (Liker, 2004). The thoughts produced by people and gatherings are proposed and executed essentially through idea plans. Albeit every thought's commitment is little, the information business can accomplish huge and long-haul quality upgrades and cost investment funds through CI exercises

In any case, regardless of the idea's adequacy and effortlessness, kaizen is hard to carry out and keep up with. Kaizen concentrates additionally show that it performs distinctively in India than in different countries.

The point of this study is that endeavors to improve the kaizen and CI hypothesis by zeroing in on knowledge specialist kaizen, as many existing examinations survey knowledge of industry-level kaizen. It is viewed that information specialist kaizen is essentially as significant as knowledge industry-level kaizen because it can upgrade knowledge worker-level information and critical thinking abilities as well as vertical and even correspondence at work. In like manner, it can further develop information laborers' inspiration and confidence, accomplishing higher corporate execution.

LITERATURE REVIEW

The responsibility can be undertaking requests or work, association, and workplace. The responsibility can be physical or mental. Every knowledge worker has various capacities concerning responsibility. A

few specialists are more qualified to take on actual obligations, yet others are more qualified to take care of business that puts more mental or social obligations on them. The kind of work influences the responsibility got by its insight laborers, whether an actual responsibility requires muscle strength or a psychological responsibility that requires more thought. Moreover, the responsibility can likewise be deciphered as a mix of quantitative and subjective jobs.

Quantitative responsibility emerges because the errands are such a large number or excessively few. While the subjective responsibility is on the off chance that the knowledge worker feels unfit to do the assignment or the undertaking doesn't utilize the abilities or capability of the specialist. A lot of responsibility can cause strain on an individual, causing pressure. This can happen when the necessary level of expertise is too high, the work speed is too quick, the work volume is excessively enormous, etc. Work uncertainty is characterized as the apparent apprehension about losing the present place of employment to unforeseen and wild occasions that can intrude on the congruity of one's work insight. During the most recent couple of years, work weakness has gotten a huge premium from scholarly examination because of changes in the work market and hierarchical settings. Unusual monetary conditions and expanded market intensity have prompted organizations to cut back and revamp, subsequently expanding the apparent instability of knowledge workers, who are stressed over losing their positions and worried about securing new positions open doors. Besides, work weakness has gotten developing consideration because of its effect on knowledge workers' psychological well-being, prosperity, and hierarchical execution. For instance, work weakness is adversely connected with work fulfillment, authoritative responsibility, and prosperity, which demonstrates the stressor job of occupation frailty. Moreover, the unsafe results of occupation frailty incorporate burnout side effects, a contention between one's work job and individual life, and a critical decrease in life fulfillment.

METHODOLOGY

This research is been conducted using a quantitative research method. The research began by conducting

preliminary research on the knowledge industry and knowledge workers. From the preliminary research, it was found that the knowledge industry's problems in more detail were related to the workload, anxiety, and job insecurity of workers. The next phase of research was to collect the data using questionnaires. Structured questionnaires were prepared based on 3 important parameters(independent variables) for both knowledge workers and their managers and after that, a survey is been conducted.

These structured questionnaires were circulated to 40 knowledge workers and 4 managers with help of Google Forms. Knowledge workers and managers were asked to rank each question on a five-point Likert scale, with the most positive (strongly agree) scoring 5 and the most negative (strongly disagree) scoring 1. Based on the responses of both managers and knowledge workers the quantitative analysis is been conducted on MS Excel using the Pearson coefficient(r) to find the correlation between anxiety and Kaizen behavior, workload and Kaizen performance, job insecurity, and Kaizen performance. After that regression analysis is been performed.

HYPOTHESIS DEVELOPMENT

Imai (1986) states that kaizen has two components: maintenance and improvement. Maintenance refers to actions directed toward maintaining the current technological, managerial, and operating standards, while improvement means improving the current standards. According to Imai (1986), to achieve consistent individual kaizen performance, employees first need to set standards, and “the standard should be binding on everyone, and it is management’s job to see that everyone works by the established standards”(p. 75). That is, once these standards are established, employees must follow them precisely. Thus, it is assumed that rule adherence becomes particularly important. Once the standard is set, employees may spend most of their time following the standard operating procedure(SOP). However, Imai (1986) further suggests that kaizen requires employees to not only follow the current standards but also go beyond them. Therefore, as employees become more capable, they may begin to recognize problems in the SOP. In such a case, they need to take initiative to write the problems down on a suggestion sheet and submit it to their supervisors. Once the standards have been

upgraded, rule adherence by employees becomes essential again. Thus, kaizen is achieved through incremental steps that build upon previous gains(cf. Iwao and Marinov, 2018, pp. 1324–1325 for an excellent example of how this process works at Toyota). Besides, kaizen requires employees to be involved in CI activity for a long time. Based on Brunet and New (2003), kaizen consists of pervasive and continual activities to identify and achieve outcomes, suggesting that it requires perseverance to continually overcome problems in the workplace. According to Strack et al. (2017), anxiety has information functions that lead to higher self-motivation. High-anxiety individuals tend to display attention bias where they become more sensitive to the presence of problems and threats than those with low anxiety (Mathews et al.,1990; Eysenck and Calvo, 1992). Thus, when working on a task, they tend to pay attention to the negative aspects. For example, although this worker is doing well from the point of view of others, he/she thinks his/her progress is too slow. Based on the self-regulatory system (Higgins et al., 1994), this kind of information bias may lead people to energize themselves to achieve their goals. It is believed that individuals with high anxiety tend to have personal initiative.

Martin et al. (1993) show that compared with individuals with a positive mood, those with a negative mood work on a task longer if told to only stop when they are satisfied with their performance. They find that a negative mood increases task persistence when people are engaged in goal-directed action. High-anxiety individuals, therefore, may have higher task perseverance than low-anxiety individuals.

Drawing hypothesis based on the above arguments as follows-

Hypothesis 1 - There is a positive relationship between anxiety and kaizen behavior.

According to the trait-based model of job performance, achieving higher levels of behavior can lead to higher levels of performance (Tett and Burnett, 2003). Thus, it is assumed that higher kaizen behavior leads to better kaizen performance. In general, kaizen’s purpose is to continuously eliminate various wastes from the production process, such that quality improvement, reductions in costs and delivery time, and service enhancement can be achieved (Imai, 1986; Ohno, 1988; Liker, 2004). This study analyzes the

impact of personal anxiety on kaizen conduct. Individual kaizen is significant according to the viewpoint of an information specialist. It gives an open door to knowledge workers to offer their viewpoints on critical thinking (Ferdinand & Opitz, 2014; Nieuwenhuis et al., 2005). It permits working in a gathering and afterward there is a trade of thoughts that works on the results and consequences (Bensi & Giusberti, 2007) of an association. At the point when knowledge workers conceptualize it helps in the trading of contemplations, and two-way correspondence additionally moves along. As per inspiration speculations if the chief attempts to rouse their laborers Lerner & Keltner, 2001 so their presentation likewise increments. As per the impetus hypothesis if acknowledgment, motivators, and prizes increment inspiration toward work likewise increments, and subsequently their kaizen execution additionally increments. Nervousness (Holroyd & Coles, 2002) would almost certainly have suggestions for knowledge workers. On the off chance that a worker has an elevated degree of tension, he can involve this uneasiness as a wellspring of inspiration to build his kaizen execution. On the off chance that the individual nervousness (Gopnik, 2012; Nelson et al., 2014) of a specialist can become learning uneasiness, his center will move towards learning. Thus he can perform better and demonstrates qualifications to the association.

In this review, we concentrate to quantify the criticism of knowledge workers with changing degrees of nervousness utilizing the form of

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Probabilistic learning task(PLT). In this assignment, members are expected to choose between theoretical boosts related to various probabilities of giving positive criticism.

Hence, this errand evaluates the propensity to gain from positive versus negative input under elevated degrees of vulnerability. Utilizing the PLT, exhibited bigger FRN(feedback-related cynicism) Holroyd & Coles, 2002) amplitudes (McDaniel & Fisher, 1991) to be related to expanded negative input realizing, that is to say, with expanding task execution after being given a negative criticism result.

This impact is additionally articulated when members have gained from the criticism and changed their way of behaving as needs are. Profiting from these

assignment attributes we can look at adequacy for learning after negative and positive criticism Hadden and Frisby (2018) across restless and non-restless members. As proposed in the writing surveyed above, profoundly restless people truly do show pessimistic aversion.

That is restless people invested some extensive energy attempting to keep away from pessimistic criticism (Pashler et al., 2005) and are, in this manner, bound to advance quicker from pessimistic than from positive criticism, notwithstanding their generally more unfortunate execution.

Subsequently, we anticipate that these people will show an expanded inclination to perform better after pessimistic contrasted with positive input. Functionally, we characterize negative input inclination as better errand execution after getting negative criticism (Andersson et al., 2019). then in the wake of getting positive input. This predisposition would be reflected in a positive relationship between the proportions of nervousness or anxiety and expanded task execution in the wake of getting negative criticism yet not after sure input. In light of late discoveries, we foresee restless people to all the more promptly expect pessimistic criticism and consequently show a decreased FRN part (Kulik & Kulik, 1988). This ought to be caught by a positive relationship between the proportions of nervousness or anxiety and the ERP reaction to negative input.

Hypothesis 2- Workload positively affects Kaizen Performance

Knowledge industry workers experience the ill effects of occupation stress because of occupation disappointment, over-the-top responsibility, time limitations for the fruition of a task, the unfortunate fit between work qualities and knowledge workers' capacity, and individual issues. Further, work pressure is more successive in shift-related working societies. Knowledge industry workers with comparative industry conditions might encounter work disappointment, mental pressure because of time cut-off times, and actual pressure because of extreme responsibility. The extent of occupational stress in the applied model includes time cut-off times for undertakings (mental pressure), stress at the singular level (both physical and mental pressure), extreme over-burden of work or genuinely requesting work, the

unfortunate fit between allocated work and laborers ability (mental and actual anxieties).

Hypothesis 3- Job insecurity negatively affects the Kaizen Performance of knowledge workers

In terms of work-related stress, the JD-R model (Bakker and Demerouti, 2014, 2017; Schaufeli and Taris, 2014) allows framing job insecurity as a stressful job demand that can deteriorate psychological health and individual energies if not balanced with adequate work-related resources (Mauno et al., 2007). Job insecurity may cause negative consequences on workers' well-being, attitudes toward their job, and behaviors at work. However, research focuses on behavioral outcomes, especially on knowledge workers' performance at work.

In the literature, the focus has often been on highlighting the harmful effects of job insecurity on both personal health and job attitudes and outcomes. However, the link between job insecurity and Kaizen performance is still unclear (Stankevičiūtė et al., 2021). Therefore, focusing on exploring the potential mechanisms underlying the link between job insecurity, Kaizen performance, and job outcomes through intermediate drivers seems to be an area of research that needs to be addressed.

The focus becomes even more crucial when considering the need for managers to gain a more comprehensive understanding of the job-insecurity-performance relationship to develop organization-wide strategies that can prevent stress reactions and support individual and organizational effectiveness (Piccoli et al., 2021). Therefore, the purpose of this study is to provide a conceptual framework that identifies possible individual psychological mechanisms underlying the effect of job insecurity on Knowledge workers' performance.

Based on the resource-based model of stress (Lazarus and Folkman, 1984), several studies have considered job insecurity a stressor that results in poor mental health outcomes. A recent meta-analysis suggested the deteriorating negative role of job insecurity on individuals' physical and mental health (Jiang and Lavaysse, 2018). In line with these results, studies have tried to link the impact of job insecurity on job outcomes, such as performance through levels of individual well-being.

According to the JD-R model (Schaufeli and Taris, 2014), persistent exposure to excessive job demands (i.e., job insecurity) may trigger symptoms of emotional exhaustion that, in the long run, may result in detrimental individual and job-related outcomes (e.g., an impaired job performance). Consistent with the health-impairment process, the enduring experience of job insecurity could engender a condition of chronic emotional exhaustion (e.g., burnout) and eventually translate into harmful outcomes for individuals and their work environment, thus deteriorating job performance.

RESULT AND ANALYSIS

Anxiety-

After getting the responses over 3 questionnaires on anxiety from respondents we compare the satisfaction of both knowledge workers and managers to find out the Pearson coefficient(r). r is calculated as 0.18. This simply means that anxiety and Kaizen behavior has a positive relationship among them(though on the lower side as the value of r lies from 0 to 0.3). Also, we can say that there is a low positive correlation between anxiety and Kaizen behavior. The value of R square is found to be 0.032 which is on the lower side.

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.180014587							
R Square	0.032405251							
Adjusted R Square	0.006942232							
Standard Error	0.999632122							
Observations	40							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	1.271703586	1.271704	1.2726	0.26634448			
Residual	38	37.97204641	0.999264					
Total	39	39.24375						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.228902954	0.712364002	3.128882	0.0034	0.78679743	3.67100848	0.78679743	3.67100848
X Variable 1	0.262658228	0.232829639	1.128113	0.2663	-0.20868073	0.73399719	-0.20868073	0.73399719

Workload-

After getting the responses over 3 questionnaires on workload from respondents we compare the satisfaction of both knowledge workers and managers to find out the Pearson coefficient(r). r is calculated as 0.03. This simply means that workload and Kaizen Performance has a positive relationship among them(though on the lower side as the value of r lies from 0 to 0.3). Also, we can say that there is a low positive correlation between workload and Kaizen performance. The value of R square is found as 0.004 which is again on the lower side.

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.063525367							
R Square	0.004035472							
Adjusted R Square	-0.02288249							
Standard Error	1.024597701							
Observations	39							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.15738342	0.157383	0.149917	0.700832508			
Residual	37	38.84261658	1.0498					
Total	38	39						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	3.32642487	0.858873499	3.873009	0.000423	1.586181861	5.0666679	1.586181861	5.06666788
2.666666667	-0.10492228	0.270982726	-0.38719	0.700833	-0.653985436	0.4441409	-0.653985436	0.444140876

Job insecurity-

After getting the responses from over 3 questionnaires on job insecurity respondents we compare the satisfaction of both knowledge workers and managers to find out the Pearson coefficient(r). r is calculated as -0.07. This simply means that job insecurity and Kaizen Performance have a negative relationship among them(though on the lower side as the value of r lies from 0 to -0.3). Also, we can say that there is a low negative correlation between job insecurity and Kaizen performance. The value of R square is found to be 0.001 which is on the lower side.

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.036871623							
R Square	0.001359517							
Adjusted R Square	-0.02563077							
Standard Error	1.025973221							
Observations	39							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	0.053021148	0.053021	0.0503706	0.82365447			
Residual	37	38.94697885	1.052621					
Total	38	39						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	2.832326284	0.764946285	3.702647	0.0006923	1.282397886	4.382255	1.282397886	4.38225468
2.666666667	0.053021148	0.236243892	0.224434	0.8236545	-0.425654445	0.531697	-0.425654445	0.53169674

Theoretical Implications-

Our findings provide the first empirical demonstration of the effect of personal anxiety on individual kaizen

behavior and performance, thus extending previous theories on kaizen and CI implementation. More specifically, it contributes to these theories by

focussing on individual kaizen, which is discussed as an important type of kaizen in the literature (Imai, 1986; Berger, 1997; Kerrin and Oliver, 2002), even though few studies have been conducted on this topic compared with knowledge worker-level kaizen. Moreover, although anxiety has been intensively researched as an important determinant of job performance, its influence on kaizen has not been empirically tested. This study elaborates on the discussions that anxiety can be a driver of kaizen (Imai, 1986; Parker and Slaughter, 1988; Schein, 2016).

MANAGERIAL IMPLICATIONS

The findings guide managers and consultants in improving kaizen activities. Based on the research findings, we suggest that it may be necessary for managers to increase their knowledge of workers' state anxiety to produce better kaizen performance. This can be achieved by creating a work environment that increases survival anxiety by injecting a sense of urgency (Schein, 1993). The need for a sense of urgency to achieve better CI performance is consistent with Jørgensen et al. (2003). A sense of urgency could be raised by bringing the outside in and creating a burning platform that, for example, includes benchmarking and setting challenging goals (Kotter, 2008). However, the current study's results show that increasing state anxiety diminishes personal initiative as well as perseverance. This indicates that such managerial intervention to raise state anxiety may be useful to introduce kaizen in the short term, but the effect may not last in the long term. Moreover, excessive anxiety may lead to fear, which negatively impacts overall job performance (Deming, 2000; Bugdol, 2020).

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