Boosting innovation in uncertain condition to grow an economic income: The role of flexible working arrangements

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Abstract. Due to the current financial instability worldwide, maintaining business growth requires continuous breakthroughs and innovations. It means that millennials, the current majority of the workforce, need to be innovative instead of feeling insecure about their jobs in this uncertain economic condition. Job insecurity prevents millennials from performing innovative work behavior (IWB) because employees tend to avoid time-consuming activities to generate creative ideas when they are insecure about their jobs. Thus, this study examines the negative effect of job insecurity on innovative work behavior. Given the importance of innovative work behavior, it is worth to find possible ways to minimize the negative effect of job insecurity on IWB. Therefore, this study tried to explore whether flexible working arrangement (FWA) could buffer the negative impact of job insecurity on innovative work behavior. The results showed that the negative effect of job insecurity on IWB would be reduced when the FWA is high. In other words, the negative effect of job insecurity on IWB in low FWA condition (r = -.37; p < .01) became insignificant in high FWA condition (r = -.01, n.s.).

1. Introduction
To survive uncertain economic condition, Indonesian companies certainly wants their employees, especially the millennials, to display innovative work behavior [1]. Since millennial employees comprise almost half of the Indonesia workforce [2], it is relevant to explore their needs so as to improve their motivation, to be creative and productive in the workplace [3]. Innovative work behavior (IWB) usually includes exploring opportunities and creating new ideas and includes actions that lead to the application of change, the application of new knowledge, or improvement of processes to improve personal performance and/or implementation [4][5]. In other words, innovative work behavior includes creativity and execution, i.e. bringing new ideas and implementing the existing system to new situations or applying new ideas to work [5][6]. Specifically, innovative work behavior consists of idea generation, idea promotion, and idea realization [7][8]. Idea generation is defined as the creation of new ideas that are useful in any field, idea promotion promotes the concept to potential people, while the idea realization is to make a preliminary model of the innovation that can be applied to a job, group, or organization [8].

However, the recent financial instability worried the millennials. While millennials are often described as employees who may not hold a job for a long time because they tend to be less loyal to the organization, they are starting to worry about their future and become concerned about unemployment so that they are less likely to quit their current jobs [9]. They begin to seek stability and security in work
Research on innovation and innovative work behavior has increased recently. Previous research has found various factors that influence innovative work behavior, i.e., individual characteristics (e.g., personality, experience, and motivation), job factors (e.g., autonomy, work complexity, time pressure), and contextual factors (e.g., positive climate, superiors' support, and leadership) [5][6][7]. The most current research about IWB attempts to find ways to improve innovative work behavior, namely the influence of leadership types on creative work behavior and the impact of tasks on innovative work behavior [5][6][7], while the study of the effects of the individual factors, such as personality, feeling, and attitude on IWB, is still rare [14][15][16][17].

However, the effect of job insecurity on IWB is still inconsistent. Several studies have found a negative direct impact of job insecurity on creative work behavior and creativity [14][15][17], while other studies have shown no direct effect of job insecurity on creative work behavior, i.e., there was an indirect effect of job insecurity on IWB through psychological contract breach and the motivation to innovate [15][16]. Therefore, the researchers want to examine further the impact of job insecurity on innovative work behavior. Thus, it was expected that:

H1. Job insecurity has a negative direct effect on innovative work behavior.

While previous research mostly studied the mediating role of inner psychological processes, like motivation and psychological contract, on the relationship between job insecurity and innovative work behavior, the current study focuses on job resources, like flexible working arrangements, that could moderate the negative impact of job insecurity on innovative work behavior because millennials want freedom in their works. For their freedom, millennials look for flexible working arrangements (FWA) or alternative work options that make it possible to complete work outside the traditional temporal and/or spatial limits on standard workdays [18], e.g., flextime, telecommuting work, working from home, compressed workweek, working part-time, working on weekends, and freelancing [19]. The two most popular types of FWA are Flextime and Flexplace [19][20]. Flextime refers to the flexibility of working time, while flexplace is the flexibility of the location where work must be completed, which often refers to working from home (telework/telecommuting).

While most research on FWA is associated with work-life balance or quality of life [21][22][23], the empirical research related to the relationship of the FWA to creativity and innovation is still rare [24]. One of the studies that discussed FWA's influence on creative work discovered FWA's benefits on innovative Research & Development work, namely, employees feel more productive and more satisfied with their work [25]. Another study found that teleworking and flexible workspaces (i.e., flexplace) positively influenced IWB, especially on the idea generation phase [26]. Meanwhile, flexible working hours (i.e., flextime) contribute to IWB on the idea generation and idea promotion phase [26]. Other scholarly work also found that flexplace played a positive role in IWB and found that flexitime only contributes to IWB through the work method [27].

The feeling of job insecurity may be reduced by the feeling of control of their work by using flexible work arrangement [28]. When employees can manage their work by using FWA, they will think that they can handle the situation and reduced their feeling of insecurity. Therefore, this study suggested that:

H2. Flexible Working Arrangements will moderate the negative effect of job insecurity on innovative work behavior.
Since the most popular forms of FWA are flextime and flexplace, this study specifically suggested that:

**H3. Flextime will moderate the negative effect of job insecurity on innovative work behavior.**

**H4. Flexplace will moderate the negative effect of job insecurity on innovative work behavior.**

This study may benefit Indonesian companies to improve their innovations, which could enhance their products and services that help Indonesian communities and thrive in the global market. The Indonesian companies also may give their millennial employees job security and freedom at work.

### 2. Method

The method includes the description of the study design, participants in the study, and the measures used in this study. Finally, yet importantly, the way also consists of data collection and analysis.

#### 2.1. Study design

This study's design was non-experimental research that aimed to examine the causal relationship without using manipulation and was carried out in everyday situations (uncontrolled). This research was also a cross-sectional study that analyzes data from a population or a community representation at a particular time.

#### 2.2. Participants

The characteristics of the participants in this study were the millennials population in Indonesia. They were a generation born in the technology cradle. They have a work ethic that is different from the age before them. Millennials work effectively rather than work hard for a long time [29]. They were also able to master new technology in a relatively short time. Millennials were also expected to be able to contribute to innovation at the workplace level [1]. Therefore, they were considered innovative compared to their predecessor generation. This made them suitable as participants in this study. Also, the participants should have at least finished the company's probation period to get exact data related to work behavior. Researchers announced participants' searches on social networks and instant messaging, which also contained an online questionnaire link. Researchers also distributed questionnaires directly to prospective participants at several companies.

#### 2.3. Measures

**2.3.1. Innovative work behavior scale.** This study used a measurement tool adapted from Janssen to measure every innovative work behavior [8]. It had been previously adapted into Bahasa Indonesia and used in another research in Indonesia [30]. This instrument consisted of nine items with a 1-6 Likert scale from 1 = "Never" to 6 = "Always." An example of an article for the idea generation was "Searching out new working methods, techniques, or instruments". This instrument indicated how often employees performed those innovative work behaviors in the workplace [8]. Cronbach's α for this scale was .932, which was considered satisfactory.

**2.3.2. Job insecurity scale.** Job insecurity was measured using a job insecurity measure initially developed by De Witte but further evaluated across countries by Elst, De Witte, and De Cuyper [12][28]. This measure had been adapted into Bahasa Indonesia and used in several research in Indonesia [31]. This measuring instrument was chosen because it was considered valid and reliable in various countries. This instrument consisted of four items with a 1-6 Likert scale (1 = Strongly disagree, to 6 = Strongly agree). One of the things on this scale is "Chances are, I will soon lose my job." The Cronbach's α for this scale was .790.

**2.3.3. Flexible working arrangements.** This study used the FWA measurement tool from Hyland to measure Flexible Working Arrangements [22]. Based on these measurements, access to flextime is
calculated by items that represent flextime “I have the freedom to vary my work schedule.” In contrast, flexplace was measured by objects that represent the flexibility of places such as, “I have the freedom to work in whichever is best for me - whether at home or work.” The response, which was initially a five-point Likert scale, was changed to a six-point Likert scale to avoid any intermediate values. The reliability analysis of this measure showed Cronbach’s α of .864. Due to the lack of research using this measurement in Indonesia, the researchers conducted a construct validity analysis using Confirmatory Factor Analysis (CFA). The original measure has eight items, shown in Table 1, with four items representing flextime and four items representing flextime. After reliability and validity analysis, five things were retained: flextime and two flex-place things which is presented in Table 2. The researcher conducted reliability analysis for the revised scale, and it showed the Cronbach’s α of .838.

### Table 1. Standardized and unstandardized coefficients for CFA Original Items

| Observed Variable | Latent Variable | Loading Factor | Standardized Loading Factor | Standardized Error |
|-------------------|-----------------|----------------|----------------------------|--------------------|
| FWA1t             | Flextime        | 1              | 0.732                      | 0.4642             |
| FWA3t             | Flextime        | 0.9188         | 0.6728                     | 0.5474             |
| FWA5t             | Flextime        | 0.9718         | 0.7281                     | 0.4699             |
| FWA7t             | Flextime        | 0.7346         | 0.5651                     | 0.6806             |
| FWA2p             | Flexplace       | 1              | 0.807                      | 0.3487             |
| FWA4p             | Flexplace       | 0.7629         | 0.655                      | 0.571              |
| FWA6p             | Flexplace       | 0.8137         | 0.6413                     | 0.5887             |
| FWA8p             | Flexplace       | 0.8645         | 0.667                      | 0.5551             |

NFI = 0.846; CFI = 0.859; GFI = 0.888; SRMR = 0.067

### Table 2. Standardized and Unstandardized Coefficients for CFA after Item Deletion

| Observed Variable | Latent Variable | Loading Factor | Standardized Loading Factor | Standardized Error |
|-------------------|-----------------|----------------|----------------------------|--------------------|
| FWA1t             | Flextime        | 1              | 0.7649                     | 0.415              |
| FWA3t             | Flextime        | 0.9153         | 0.6972                     | 0.5139             |
| FWA5t             | Flextime        | 0.8684         | 0.6815                     | 0.5356             |
| FWA2p             | Flexplace       | 1              | 0.7785                     | 0.394              |
| FWA4p             | Flexplace       | 0.7603         | 0.6353                     | 0.5964             |

NFI = 0.962; CFI = 0.966; GFI = 0.972; SRMR = 0.035

2.4. **Data collection and data analysis**

The researcher distributed the questionnaires to the target population, either by visiting participants directly or via link distributed online. When the data had been collected, the researcher ensured the completeness of the data acquired and inserted them into the statistical processing software. The research questionnaire was separated into a two-part questionnaire. The first one consisted of the job insecurity scale, and the second consisted of flexible working arrangements and innovative work behavior scale. This separation of the questionnaire aimed to minimize the effect of standard method variance. Afterward, there were several statistical techniques used to help with data analysis, namely descriptive statistics, bivariate correlations, linear regression, and PROCESS macro by Hayes.

3. **Results and discussion**
3.1. Results
From 454-paired questionnaires distributed to several companies/organizations, 369 returned to the researcher, and only 332-paired questionnaires were completed and were able to be analyzed. The demographic data in Table 3 showed that the participants consisted of 175 males (52.7%) and 157 females (47.3%). The participants’ age was ranging from 18 to 38 years old. They came from various educational backgrounds, but most of them had a bachelor’s degree (64.2%). The participants mostly were working as a staff (77.1%) for two years (27.2%).

Table 3. Demographic Data

| Variables          | N  | Percentage (%) |
|--------------------|----|----------------|
| Gender             |    |                |
| Male               | 175| 52.7           |
| Female             | 166| 47.3           |
| Education          |    |                |
| Middle School      | 5  | 1.5            |
| High School        | 53 | 16             |
| Diploma            | 21 | 6.3            |
| Bachelor           | 213| 64.2           |
| Master             | 40 |                |
| Job Level          |    | 77.1           |
| Staff              | 256| 12.3           |
| Supervisor         | 41 | 10.2           |
| Manager            | 34 | 0.3            |
| General            |    |                |
| Manager/CEO        | 1  |                |
| Job Tenure         |    |                |
| < 1 years          | 72 | 28             |
| 1-2 years          | 93 | 22.6           |
| 3-4 years          | 75 | 13.6           |
| 5-6 years          | 45 | 14.2           |
| > 6 years          | 47 |                |

Table 4. Univariate statistics and Pearson correlations among the variables at different levels of Flexible Working Arrangements

The researcher then analyzed the data given by the participants. Reported in Table 4 were the means, standard deviations, and correlations of the variables. The results shown in Table 4 indicated that job insecurity had a negative relationship with innovative work behavior. Hence, H1 was supported. Specifically, the results indicated that job insecurity had a significant negative correlation with innovative work behavior (IWB) when flexible working arrangements (FWA) were low ($r = -.366, p < .05$) and had no significant correlation with IWB when the FWA were high ($r = -.008, n.s.$). Also, the results showed that job insecurity had a significant negative relationship with innovative work behavior when the flexplace was low ($r = -.405, p < .01$), and the correlation were not significant at high flexplace ($r = -.050, n.s.$). On the other hand, the flextime had a different role in the correlation between job insecurity and IWB. Job insecurity did not have significant correlation with IWB at low flextime ($r = -.099, n.s.$) and high flextime ($r = .022, n.s.$).
Next, this study used the PROCESS macro by Hayes on IBM SPSS 22 to verify the moderating effect of flexible working arrangements on the relationship between job insecurity and innovative work behavior presented in Table 4. At Table 5, it showed that flexible working arrangements buffers the relationship between job insecurity and IWB (estimate = .032, SE = .015, t = 2.06, p <.05). Thus, Hypothesis 2 is accepted. The result also showed that the flexplace moderated the correlation between job insecurity and IWB (estimate = .108, SE =.108, t = 2.99, p <.01), which means hypothesis 4 is also accepted. However, the flextime was not found to moderate the relationship between job insecurity and IWB. Hence, hypothesis 3 was not supported (estimate =.036; SE = .024; t=1.51, n.s.).

### Table 5. Moderated Models Estimates

| Variables | Standardized Coefficients | SE  | t     | p    | 95% CI      |
|-----------|---------------------------|-----|-------|------|-------------|
| JI        | -0.791<sup>c</sup>       | 0.272 | -2.910 | 0.004<sup>c</sup> | -1.327 | -0.256 |
| FWA       | 0.512<sup>c</sup>        | 0.167 | 3.071 | 0.002<sup>c</sup> | 0.184 | 0.840 |
| JIxFWA    | 0.032<sup>b</sup>        | 0.015 | 2.066 | 0.040<sup>b</sup> | 0.002 | 0.062 |

| Variables | Standardized Coefficients | SE  | t     | p    | 95% CI      |
|-----------|---------------------------|-----|-------|------|-------------|
| JI        | -0.595<sup>b</sup>       | 0.252 | -2.358 | 0.019<sup>b</sup> | -1.091 | -0.099 |
| FWA       | 0.784<sup>c</sup>        | 0.255 | 3.075 | 0.002<sup>c</sup> | 0.283 | 1.286 |
3.2. Discussions
Our findings in this study were consistent with prior research that has found a negative direct effect of job insecurity on innovative work behavior and creativity \cite{14}\cite{15}\cite{17}. This study found a negative correlation between job insecurity and creative work behavior. However, it was also worth to mention that this study did not examine any mediator on the relationship between job insecurity and innovative work behavior. Previous studies suggested that job insecurity influences creative work behavior indirectly through motivation to innovate, work engagement, and psychological contract breach \cite{14}\cite{15}\cite{17}.

As predicted, the flexible working arrangement was positively influenced by innovative work behavior. This finding was consistent with previous scholarly works \cite{14}\cite{26}. It showed that flextime and flexplace were beneficial to promote creative work behavior in millennials, concerning the moderation analysis, flexible working arrangement, and flexplace moderating the relationship between job insecurity and innovative work behavior. The flexible working arrangement creates conditions where employees feel a sense of control in an uncertain situation, which reduces the negative effect of job insecurity. This was based on the suggestion by De Witte about the way to manage job insecurity was to reduce unpredictable and uncontrollable conditions \cite{28}. The workplace was related to the work itself. Given the ability to choose where to finish the task or given workplace options, it enables the employee to withdraw from the congested work environments and work in other settings that are less hectic, so the likelihood of being distracted, disrupted, and interfered are minimalized \cite{26}.

However, our results did not support the moderating effect of flextime in the relationship between job insecurity and IWB. The results also showed that job insecurity had a positive direct relationship with IWB at high flextime. It means that the ability and freedom to choose the working time did not significantly reduce the negative effect of job insecurity on IWB even though flextime was previously found to contribute to innovation \cite{26}. This might be due to flextime's influence contributed more to the earlier phase of IWB and less at the application phase \cite{26}.

From the finding above, flexplace reduced the negative effect of job insecurity on IWB through its role as a moderator. Thus, it is suggested that the millennial employees who experienced job insecurity can still perform innovative work behavior by giving them the freedom to choose where to finish the task and workplace options (e.g., co-working space, discussion room, innovation room, etc.). These workplace options were promoting idea generation and helping with idea promotion and idea realization since there is a chance to communicate with other employees. This can be quickly done now that Indonesia's co-working space increased rapidly from 45 to 200 or 400% in 2 years period from 2016 to 2018 \cite{32}. This popularity was brought by the fourth industrial revolution, characterized by advancements in technology to improve productivity \cite{33}. Most of the co-working space users are startup entrepreneurs and MSMEs. These startup entrepreneurs and MSMEs not only need workspaces but connections and communities to collaborate \cite{32}.

4. Conclusion
Millennials are prone to experience job insecurity due to the difficulties of being hired, being a permanent worker, and losing jobs for those who already work for a company. Their job commitment
level will be lower, and the probability of them displaying innovative work behavior is decreasing. With workplace flexibility, job insecurity on creative work behavior will be lower, and the employees can perform innovative work behavior better. The better employees are performing innovative work behavior, the higher a company comes up with innovations. Thus, the SDGs point eight can be achieved. Further research is needed primarily to explore the role of FWA on IWB, given the results of this study indicate a positive relationship between the two variables. The position of autonomy and company trust in the employees by providing FWA could enrich FWA and IWB, especially on millennials employees.

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