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| open access | **Article Type:** Research Paper/Literature Review/SystematicReview/General View/etc. Flexible Working Arrangement (FWA) Model: Reducing Congestion Levels, Work Stress, and Increasing Work Productivity.Zulkifli Sultan\*, Muhammad Fachmi, Roman Klimko**Abstract****Research aims**: This research aims to analyze the impact of the flexible working arrangement (FWA) system in reducing traffic jams, reducing work stress, and increasing employee work productivity**Design/Methodology/Approach**: This research was carried out using a sample collection technique using purposive sampling by distributing questionnaires to 100 government employees and company employees and interviewing 5 informants from government employees. Data analysis uses SEM (structural equation model) with the AMOS analysis tool.**Research findings**: Based on the results of the research and discussion, it can be concluded that flexible working arrangements (FWA) have an important role in reducing traffic jams, and traffic jams have the impact of increasing a person's work stress. Meanwhile, reducing traffic congestion has a positive impact on workers, work stress can also decrease. Despite flexible working arrangements (FWA), work congestion and stress do not influence work productivity**Theoretical Contribution/Originality**: This research contributes to the science of human resource management. Apart from that, insight into urban management related to HR work activities.**Practitioners/Policy Implications**: The results of this research are a source and basis for guidance in structuring work patterns that are more efficient and effective, working flexibly can reduce the level of traffic congestion.**Research Limitations/Implications**: There are many limitations to this research and future researchers must explore it more deeply, especially the very limited number of respondents and informants who cannot be met directly so the question-and-answer process is less in-depth. Apart from the respondents and informants, because the indicators in this research for each variable are still lacking, the references are still weak.**Keywords**: work flexibly, traffic density, work stress, work productivityIntroductionTraffic jams are a major problem throughout the world because they greatly influence the work activities and lifestyles of all elements of society. So, it is very important to create and change government policies and encourage changes to break down these bottlenecks. Therefore, this problem cannot be simply ignored because it creates work stress for workers (Vencataya et al., 2018). Stress causes several serious problems such as mental and physical health which have a negative effect that productivity decreases, but flexible work practices provide benefits for balancing work responsibilities and personal life (Shagvaliyeva & Yazdanifard, 2014). As many as 54% said stress in their work life was caused by severe traffic jams. Congestion also affects the welfare of workers, time that could be used for productivity is hampered (Permatasari, 2020). Congestion also affects the welfare of workers, time that could be used for productivity is hampered (van der Loop et al., 2019). Increasing encouragement for flexible working can reduce traffic congestion at peak times and improve people's quality of life (Achariyaviriya et al., 2021). So, the best solution is to implement a more flexible work system so that workers do not face traffic jams on the way to work, providing much better peace of mind so that employees are more productive.Employee stress at work arises due to experiences in traffic jams (Weerasinghe et al., 2020b) In addition, traffic congestion and worker productivity imply that increasing levels of traffic congestion will lead to lower productivity. Therefore, efforts are needed to reduce traffic congestion on highways and increase the free flow of traffic which will significantly increase worker productivity (Somuyiwa et al., 2015a). In one of the most congested cities in the world, namely Bengaluru in India, the level of traffic jams is a serious problem and affects students' mental health (Singh & Reddy, 2021). Regarding the level of congestion in Indonesia, the most congested city is DKI Jakarta, ranked 173rd in the world and ranked 1st in Indonesia based on INRIX 2023 Traffic Scorecard report data. So, one effort that can reduce congestion is by implementing flexible working arrangements (FWA), as was the case during the Covid-19 pandemic with WFH, to reduce congestion on the roads due to the number of vehicle users. The level of congestion in the city of Jakarta can be seen in Figure 1:**Picture 1.** Percentage of Congestion levels in the city of DKI Jakarta Source: DKI Jakarta Provincial Transportation AgencyLooking at Figure 1 shows that there has been a significant decrease in the level of congestion from 2019 to 2021, although in 2022 to 2023 it increased again, one of the reasons for this is that the number of traffic jams in 2020-2021 has decreased due to the Covid-19 pandemic. The implementation of central government policy with the Work from Home (WFH) work system at that time was effective in reducing the number of vehicle users on the road because the activities of workers and students were predominantly carried out at home. Even though the initial implementation was difficult, eventually people started to get used to it and some people even felt that working from home was quite effective as long as it was supported by a good technological system. Flexible working hours by working from home, and other flexible work arrangements modestly improve mental health (Shiri et al., 2022). The implementation of flexible working arrangements (FWA) has experienced a positive increase with high enthusiasm followed by high levels of productivity through work systems that suit needs. Apart from that, other benefits can be seen in several aspects related to efficiency, gender, culture, technology, and transportation (Fadhila & Wicaksana, 2020). There is evidence that working for a certain duration and a set work schedule suits their needs because they can manage their time between work and free time. This can reduce fatigue and overwork in general, as well as increase workload to be more productive, enthusiastic, and motivated at work (Putu et al., 2021). However, it is necessary to note and pay attention that the implementation of FWA requires technological readiness from the agency and employee psychology to adapt to the new system.Several previous studies stated that policies that regulate working time from home influence increasing employee productivity (Witriaryani et al., 2022 ; Aziz & Iqbal, 2022) and working from home can help reduce traffic jams during peak hours and reduce energy consumption (Du et al., 2021; Loo & Huang, 2022), but on the other hand, the direct impact of FWA does not influence increasing employee performance, in fact there are research results which state that the effect of work from home (WFH) on work stress was found to be significant but on employee performance was found to be insignificant (Hamdani et al., 2022). Based on the explanation above, FWA can provide support in reducing traffic density, reducing work stress, and increasing the productivity of employees who work in areas that are dense with human activity, so this research aimed to analyze and see the impact of implementing flexible working hours for employees on the level of traffic jams on the road, work stress, and work productivity  |
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**Literature Review and Hypotheses Development**

The human relations movement theory by Elton Mayo (1920) is a form of social relations, employee welfare, and open communication between management and staff. This theory suggests that workers are not solely motivated by money but are also motivated by ensuring that social and psychological needs can be met. One of the current needs is to be able to work flexibly. The issue of flexible work is to meet workforce needs for various customer or production needs. From the worker's perspective, flexibility means having the option to choose when, for how long, and in which company the worker wants to work. Both can be achieved with work flexibility (temporary work, contract work) and with time and space flexibility (Dettmers et al., 2013). FWA is a form of work system that prioritizes work flexibility regarding when to start work, where, and the length of time of work depending on the policies of the workplace regarding the implementation of FWA itself. The work system by changing work patterns which is carried out regularly affects the time at work and the place of work is FWA (Anisahwati et al., 2020).

**The relationship between FWA and levels of work congestion and stress as well as work productivity**

Currently, traffic congestion is a major problem in big cities that affects daily life. Due to the imbalance between supply and demand causing traffic jams, one of the policies implemented in Tehran can reduce traffic jams with flexible working hours (Baradaran et al., 2023). So, more and more companies and workplaces in developed countries are providing flexible working hours or flextime for their employees, which is expected to reduce traffic jams. Congestion is a situation or condition where road users are hampered or even stopped due to the large number of vehicles exceeding the road capacity. The impact resulting from traffic jams causes many losses in terms of material, time, and energy. From a health aspect, traffic jams have a negative impact, namely affecting the psychological condition of traffic users, such as stress because there is a work deadline. From an economic aspect, the productivity produced by workers decreases (Br & Maha, 2022).

Working remotely can reduce traffic congestion, of course, through more flexible work arrangements (Wöhner, 2022). Careful implementation of alternative work schedule policies such as flexitime can provide multilevel benefits, including reducing pollution, increasing productivity, and maximizing personal well-being from stress (Rahman et al., 2022). There are still differences of opinion surrounding the benefits of flexible working arrangements for employee well-being, limited by the lack of empirical analysis regarding whether flexible working allows employees who experience stress due to work or family to overcome stress levels, as there are research results that suggest that flexible working arrangements allow combining the role of work and family to reduce chronic stress levels (Chandola et al., 2019).

Implementing FWA is a step to increase employee productivity because employees feel appreciated by the company and proud of the agency. The implementation of FWA is considered an added value obtained from the workplace, apart from providing a sense of security and no problems when carrying out work at home, even work and family time can be managed well (Stefanie et al., 2020). By implementing this FWA, it is hoped that the mental health conditions of employees will improve so that productivity can be increased. Organizations that implement FWA policies have their attraction for prospective employee candidates and employees who are already working, especially the millennial generation who are happy with the system (Vebriannthy et al., 2022).

**H1:** FWA has an impact on reducing congestion.

**H2:** FWA has an impact on reducing work stress.

**H3:** FWA has an impact on increasing work productivity.

**The relationship between the level of congestion with work stress and work productivity**

Stress in the workplace is not just a result of the workplace itself, but the result of a combination of internal and external factors, one of which is traffic jams. Therefore, traffic jams cannot be ignored because they cause stress at work. Traffic jams are a significant predictor of work stress for employees who are often stuck in traffic jams (Weerasinghe et al., 2020a). Longer commute times have been shown to increase job stress, and this can also impact mental health (Hennessy & Wiesenthal, 1997). The method of transportation is also a measure of influencing stress levels, where active passengers, such as those on motorbikes or private vehicles, tend to be more stressed, compared to passive passengers, such as those using buses, which do not show a significant impact on stress levels (Amelia et al., 2023).

Traffic congestion causes a decrease in worker effectiveness, effort levels, and overall productivity (Harriet et al., 2013). So, there is an inverse relationship between traffic jams and worker productivity, where lost time due to traffic jams significantly reduces workers' work effectiveness (Kamruzzaman & Rumpa, 2019; Somuyiwa et al., 2015b). Therefore, it can be concluded that traffic jams can cause low work performance, low work morale, hamper job satisfaction, and employee commitment, and ultimately have an impact on organizational productivity.

**H4:** Traffic jams have an impact on work stress.

**H5:** Traffic jams have an impact on reducing work productivity.

**The relationship between work stress and work productivity**

Work stress can interfere with a person's ability to concentrate, focus, and make the right decisions, thereby causing a decrease in productivity and efficiency. Thus, there is an inverse relationship between overall stress and productivity, where higher levels of stress are associated with lower productivity (Bui et al., 2021). Stress has a destructive or negative nature and eustress has a positive nature. Sometimes stress is needed to produce high performance, meaning that the higher the drive for achievement or pressure, the higher the productivity and efficiency. However, when destructive activities hurt health, causing them to no longer be able to work normally (Naibaho & Naibaho, 2022), workers who experience work stress experience fatigue more easily (Yogisutanti et al., 2019). Generally speaking, work stress is a condition where a person at work receives pressure and pressure so that it can have an impact on reducing work productivity.

**H6:** The relationship between work stress has an impact on reducing work productivity.

The empirical study that has been linked above produces the following conceptual framework model:



**Figure 2.** Conceptual framework, development*.*

**Research Methods**

This research uses a mixed methods approach. This combined research is an option aimed at obtaining more comprehensive, valid, reliable, and objective research results. The mixed methods model used in this research is a sequential model using an explanatory approach, namely quantitative data, and analysis in the first stage, followed by qualitative collection and analysis. The research scheme carried out is shown in Figure 3:

 **Figure 3.** Research method scheme.

 As in Figure 3 above, the research method scheme is applied so that the implementation of this research is adapted to the problem that has been formulated:

1. Data source: the data used is primary data, data obtained and referred to directly from the main source.
2. The sampling technique for this research uses nonprobability sampling as a sampling technique, the researcher determines several criteria for population members to be selected as samples. The sampling method in this research uses a purposive sampling method by determining certain criteria as follows:
3. Working in the Jakarta, Bogor, Depok, Tangerang and Bekasi areas
4. Employees/employees who have worked for 5 years (before and after the Covid 19 pandemic)
5. The working hours applied by the agency/company are from 08.00 to 16.00 WIB

The total sample size in this study uses a formula from Lemeshow so based on the calculation it produces 96.04 which is rounded to 100 samples. This formula is used because the exact number of the population in this study is not known (Lwanga & Lemeshow, 1991). The measurement indicators in this research are:

 **Table 1.** Measurement Indicators

|  |  |  |
| --- | --- | --- |
| Reference | Variabels | Measurement Indicator |
| (Carlson et al., 2010) and (Ray & Pana-Cryan, 2021) | *Flexible Working Arrangement* | 1. Remote working
2. Flextime
3. Division of labor
 |
| (Bian et al., 2016) | Congestion Level | 1. Vehicle volume
2. Park the vehicle on the street
3. Road infrastructure
 |
| (Ayu et al., 2022) and (Tsen et al., 2023) | Job Stress | 1. Family financial condition
2. Problems with the nuclear family
3. Work pressure
 |
| (Maliah & Kurniawan, 2020) and (Suhariadi et al., 2023) | Work productivity | 1. Ability
2. Work enthusiasm.
3. Efficiency
 |

1. Data collection techniques:
2. Using a questionnaire where the questionnaire will be given to the source/respondent is very effective in obtaining good data from employees/employees. The statements in the questionnaire sheet will be made using a scale of 1-5 to represent the respondent's opinion.
3. Furthermore, to strengthen the results of the questionnaire, interviews were conducted with 5 workers in the Jabodetabek area who communicated directly or via telecommunication.
4. Data analysis:
5. Quantitative data analysis, before the data results are tested using analytical tools, the instrument needs to be tested for validity and reliability. Data analysis uses SEM (structural equation model) with the AMOS analysis tool.
6. Next, qualitative data analysis was carried out using three routes, namely: 1) Data reduction, by summarizing, selecting the main things, and looking for themes and patterns. 2) Presentation of data, carried out in the form of short descriptions, charts, relationships between categories, and the like. 3) Drawing conclusions/verification, which is taken based on the results of the data obtained when conducting research.

**Results and Discussion**

In completing this research, several tests were carried out, namely validity and reliability tests, model tests and hypothesis tests using SEM. In testing the validity of the questionnaire, it can be said to be valid when the loading factor magnitude is greater than 0.5 and reliable when the CR value is greater than 0.7. The test results are as detailed as follows:

**Table 2.** Validity and reliability test results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variabel | Indikator | λ | Validitas | AVE | CR | Reliabilitas |
| X | X.1 | 0,808 | valid | 0,64 | 0,85 | reliabel |
| X.2 | 0,861 | valid |
| X.3 | 0,718 | valid |
| Y1 | Y1.1 | 0,811 | valid | 0,72 | 0,87 | reliabel |
| Y1.2 | 0,843 | valid |
| Y1.3 | 0,886 | valid |
| Y2 | Y2.1 | 0,712 | valid | 0,65 | 0,85 | reliabel |
| Y2.2 | 0,906 | valid |
| Y2.3 | 0,792 | valid |
| Z | Z.1 | 0,861 | valid | 0,65 | 0,85 | reliabel |
| Z.2 | 0,764 | valid |
| Z.3 | 0,794 | valid |

Source: processed data, 2023

Based on the table values ​​above, show the results of validity testing with CFA that the overall indicator value of the loading factor has exceeded the value of 0.5. Apart from that, it is a value so that it can be said that the research data is valid, and the testing stage can be continued.



**Figure 3.** Estimated Structural model results.

Based on the results of testing the structural model using the SEM approach, several goodness of fit model criteria has been seen, namely chi square, probability, RMR, NFI, CFI, TLI, IFI, GFI and RMSEA with the following details:

**Table 3.** Evaluation of goodness of fit indices overall model criteria

|  |  |  |  |
| --- | --- | --- | --- |
| ***Goodness of fit index***  | ***Cut-off* Value** | **Computation Results** | **Description**  |
| *Chi-square*  | *Expected to be small* | 101,958 | Marginal Fit |
| *Probability*  | *≥ 0.05*  | 0,000  | Marginal Fit |
| *RMR*  | *≤ 0,05*  | 0,043 | Fit |
| *NFI*  | *≥ 0.90*  | 0,859 | Marginal Fit |
| *CFI*  | *≥ 0.90*  | 0,918 | Fit |
| *TLI*  | *≥ 0.90*  | 0,887  | Marginal Fit |
| *IFI*  | *≥ 0.90*  | 0,920 | Fit |
| *RMSEA* | *≤ 0,08* | 0,107 | Marginal Fit |
| *GFI* | *≥ 0.90*  | 0,877 | Marginal Fit |

Source: processed data, 2023

 Based on table 3, shows that the probability and chi-square values ​​are close to fit, so the data in the model has the same covariance matrix as the population covariance so it can be ensured that the model is suitable for use to test the research hypothesis. Next, a significance test is carried out with a critical level of 0.05, if the value (P) < 0.05 and c.r > 1.96 then it is declared that H0 is rejected, and Ha is accepted. Likewise, when the value (P) > 0.05 and c.r < 1.96, it can be stated that H0 is accepted and Ha is rejected (Hair et al., 2011). The significant test results in this research are as follows:

**Table 4.** Significance Test

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Estimate | S.E. | C.R. | P | Label |
| Y1 | <--- | X | .353 | .141 | 2.514 | .012 | par\_12 |
| Y2 | <--- | X | -.022 | .125 | -.177 | .859 | par\_7 |
| Y2 | <--- | Y1 | .879 | .160 | 5.496 | \*\*\* | par\_14 |
| Z | <--- | X | .136 | .090 | 1.514 | .130 | par\_8 |
| Z | <--- | Y2 | .171 | .117 | 1.467 | .142 | par\_9 |
| Z | <--- | Y1 | .240 | .134 | 1.791 | .073 | par\_13 |

Source: data processing results, 2023

Based on Table 4, the test data results are obtained with the following details:

1. The p-value between the FWA variable and the level of congestion is (0.012) with the c.r. amounting to 2,514, this shows that FWA has an impact on reducing traffic congestion. One of the implementations of FWA, such as WFH during the Covid-19 pandemic, which was implemented optimally, was able to drastically reduce the level of congestion, because working more flexibly provides space for busy traffic activities to be minimized by being at home or setting traffic density hours.
2. The p-value between the FWA variable and work stress is (0.859) with a c.r. amounting to -0.177, this shows that FWA does not influence work stress. Working more flexibly is not the main reason that someone is stressed, there are also family factors that can be the cause.
3. The p-value between the variable level of congestion and work stress (\*\*\*) and the c.r. amounting to 5,496, this shows that the level of congestion has an impact on workers experiencing stress. Traffic congestion has many effects on road users, considering that working hours have been regulated, and income levels are assessed based on working hours. So, when you experience delays it has a stressful effect, apart from that, emotional management on the road and vehicle pollution also have an impact on your health.
4. The p-value between the FWA variable on work productivity (0.130) and the c.r. amounting to 1,514, this shows that FWA does not affect a person's work productivity. Some companies or institutions still do not agree with a more flexible work system. Of course, considering direct and indirect coordination and communication, the results will be different.
5. The p-value between the work stress variable and work productivity (0.142) with the c.r. amounting to 1,467, this shows that work stress does not have a significant influence on work productivity. Stress has the nature of building and reduces enthusiasm for work, not everyone makes work stress an obstacle to being more productive.
6. The p-value between the level of congestion on work productivity (0.073) and the c.r. amounting to 1,791, shows that the level of congestion does not have a significant impact on work productivity. Of course, the current level of traffic jams cannot reduce someone's enthusiasm for continuing to be productive.

Hypothesis testing results, then an interview process was carried out with informants to support and see the test results in more depth. Interviews were carried out via telecommunications with 5 (five) informants who had the status of civil servants and banking employees who work in the Jabodetabek area every day. The summary results of the interviews were carried out with questions/constructs to the informants related to previously established variables.

**Table 4.** Summary of informant interview results

|  |  |
| --- | --- |
| Question construct | Response |
| The relationship between FWA and traffic jams. | A more flexible work system such as WFH during the Covid-19 pandemic can reduce traffic jams on the roads by up to 80%, and make any trip smoother, unlike before the Covid-19 pandemic.However, currently, traffic jams are much higher than they were before Covid-19. The cause is not clear, the size of the traffic jams is now much worse than before, perhaps because work targets are increasing due to a decrease in turnover during COVID-19. |
| The Relationship between Work Stress and Traffic Jams | One of the things that cause stress at work is being stuck in traffic jams before work so that at work you are a little burdened because you work in an uncomfortable state. Congestion is very stressful, one example is during the roll call every Monday which must be followed and attended, leaving the house much earlier at around 05.00 WIB, this is done to avoid traffic jams on the road. |
| The relationship between FWA and work productivity | FWA to increase work productivity cannot yet be said to be guaranteed because distributing work to several staff is difficult if it has to be done remotely because explaining what work targets want to be conveyed is different from distributing work directly. So, if implementing WFH becomes a thing in the future, what is important for organizations to do is first prepare a technology system that supports this work. Apart from that, the leadership's ability to operate technology is also very necessary, so that in receiving and sending tasks to staff remotely they can explain to the devices below them. Because what is important is how the work target can be achieved, because the assessment measure is the main goal, overtime costs are also available.In Indonesia itself, Flexible Working Hours cannot be implemented optimally, because the technology is not yet ready or adequate.The implementation of a flexible work system in government office environments has not been implemented again after post-COVID-19, although I think working with this system is more effective and more productive because creative ideas and innovations can usually be explored more easily. |
| Relationship between FWA, Congestion, Work Stress, and Productivity | Flexible working can be more effective in completing work and reduced traffic jams can reduce work pressure.The steps taken by the government to reduce congestion are by introducing public transportation, and then the Odd-Even plate system. However, this still fails in reducing traffic jams because the density of people with activities is high, so even if the road is widened, it still cannot accommodate the number of vehicles.Apart from traffic jams, what sometimes makes a person stressed is because of family problems, such as if a child is sick or other things because their mind is less focused on work. On the other hand, working at home for too long, some work is difficult to achieve due to children or other distractions. However, when working WFH, it is possible to work while seeing sick children/family, which can make you feel better and less burdened so that work can be completed. So, working WFH needs to be balanced with WFO. |

Source: results of informant interviews, 2023

Based on the results of data processing and testing using the structural equation modeling (SEM) approach showing the relationship between the variables formed and additional results from conducting interviews with informants, the discussion can be described as follows:

**The relationship between FWA and levels of work congestion and stress as well as work productivity**

The results of this research show that FWA influences reducing the level of traffic congestion. As in big cities throughout the world, congestion is experiencing a significant increase. This congestion causes many things such as local air pollution, work delays, and distribution delays. The COVID-19 pandemic caused many economic, political, and social problems as well as the transportation operational system. One result is that the number of trips has drastically reduced, but traffic conditions have become relatively smooth. When the lockdown was eased again, traffic volumes approached normal levels and congestion even started to increase again. So, a flexible working policy is certainly a good solution to reduce traffic jams and at the same time has the effect of reducing air pollution in the Jabodetabek area, which has the highest level of pollution in Indonesia.

The results of research related to FWA in reducing traffic activity are supported by previous research which states that WFH, one part of FWA, is a viable solution for reducing traffic congestion (Elldér, 2020). Of course, there is potential to reduce traffic in developed cities in the future, working by utilizing ICT technology can reduce the need for movement of people (Hopkins & McKay, 2019). Interview results from informants also stated the same thing during the implementation of remote work around 80% of traffic congestion was reduced. However, what is the advantage of this, and previous research is the mixed method approach used and indicators of flexibility. This research takes all flexible work methods, namely flexible in terms of time, job sharing, and remote working, while previous research focuses on remote working only or working remotely.

Meanwhile, based on the test results, this research shows that FWA has no impact on work stress and work productivity. Working flexibly certainly provides comfort, but this is temporary because working flexibly actually makes someone complacent about managing time in a disciplined manner. Especially if you work remotely or work from home, there is a debate between personal matters, in this case, family conditions at home and the work itself. Of course, the main factors that influence work stress and work productivity are organizational climate and satisfaction at work (Dávila Morán, 2023; Hoboubi et al., 2017).

The other side of this research is supported by other research which states that there are disadvantages of working flexibly, namely limited internet access which is sometimes slow, then household problems impacting work, and coordination problems between colleagues which are difficult to distribute (Ruth et al., 2021). The results of this research are also supported by previous research that FWA has no significant effect on work stress (Maharani et al., 2020; Nur Ilma et al., 2022). So, it can be said that work flexibility does not always provide positive things in terms of job success, but it also has disadvantages. According to the interview results, the informant stated that working from home does not have an impact on employee productivity because the process of distributing work from leaders to subordinates is difficult to convey well, because it is different when distributing work directly, it is easier for subordinates to accept and understand. Moreover, the implementation of the technology system is not adequate, of course, this means that work flexibility does not become a trigger for increased work productivity.

**The relationship between the level of congestion with work stress and work productivity**

The level of traffic congestion can make a person stressed and frustrated, of course among employees, besides that it can also have an impact on reducing work productivity (Fonceca & Catherine, 2022). The results of this research show that the level of traffic jams influences work stress, every active worker is preceded by a journey that is quite tiring due to one of them being traffic jams. Work stress can hurt employee health, both physical and mental. According to some sources, workplace stress can cause anxiety, burnout, depression, substance use disorders, and other mental health problems. Therefore, traffic jams may contribute to increased work stress.

The results of this research are in line with previous research stating that traffic jams have been proven to have a significant impact on work stress, causing reduced concentration and effectiveness due to frustration and loss of time due to traffic jams (Dananjaya Weerasinghe & Karunarathna, 2021; Somuyiwa et al., 2015b). According to the interview results, the informant also explained that traffic jams have been a burden on the mind, making it uncomfortable when working, and reducing the ability to concentrate. Every day at work you will pass through this dense traffic, especially on Mondays when demands for attending ceremonial activities cannot be achieved because you are already stuck in traffic jams on the road. Therefore, the government needs to make policies and decisions in certain areas that have high levels of congestion, by reducing the use of private transportation on weekdays and then implementing maximum use of public transportation, of course, there are good facilities and affordable costs according to the average wage income.

Based on the test results, this research shows that the level of congestion does not affect employee work productivity. The results of the interview also hinted a little that today's workers prioritize achieving work targets according to the payment given, not making traffic jams an obstacle to productivity, but of course, the costs given are in line with problems at work. Several sources state that a high economic level is a level of congestion which indicates that an area is active (Fattah et al., 2022; Sweet, 2014).

**The relationship between work stress and work productivity**

The results of this study show that work stress does not affect work productivity. Work stress is not always a trigger for someone to be unproductive, sometimes someone is under pressure because they can manage it well with support and motivation so they can still be productive. This research is different from previous research which shows that work stress has a relationship with work productivity (de Oliveira et al., 2023; Halkos & Bousinakis, 2010; Sucharitha, 2020). Of course, the difference in research results is because this research uses an indicator approach to office environmental conditions and a family approach is more dominant, because sometimes family problems trigger stress at work, while previous research focused more on the environment and conditions of the workplace. After conducting research, it has proven that family pressure is not the main thing influencing work, as the results of the previous interview slightly mentioned that working at home while looking after children is quite stressful but does not reduce performance in completing work you can complete work while looking after and playing with your family. This was proven during Covid 19, when almost all work was done at home, but it was not a problem to complete the work, even family problems did not have an impact on work productivity. So, work stress as a whole does not determine whether each person is productive.

**Conclusion**

Based on the results of the research and discussion, it can be concluded that flexible working arrangements (FWA) have an important role in reducing traffic jams, and traffic jams have the impact of increasing a person's work stress. Work activity is high so that at certain times the density on the roads increases and causes traffic jams, reducing this activity by working flexibly, whether flexible time, remote working, or job sharing will certainly have an effect in reducing traffic jams. Meanwhile, reducing traffic congestion has a positive impact on workers, work stress can also decrease. Despite flexible working arrangements (FWA), work congestion and stress do not influence work productivity.

There are many limitations to this research and future researchers must explore it more deeply, especially the very limited number of respondents and informants who cannot be met directly so the question-and-answer process is less in-depth. Apart from the respondents and informants, because the indicators in this research for each variable are still lacking, the references are still weak. Especially references related to flexible working being linked to productivity through congestion, several studies have not revealed much.

The results of this research are a source and basis for guidance in structuring work patterns that are more efficient and effective, because since the post-Covid 19 pandemics it has become an important reason that working flexibly can reduce the level of traffic congestion, as a whole in Indonesia and the level of pollution has also decreased. Congestion is a bad image for measuring and becoming a developed country, because of the dominance of private vehicles compared to public transportation. Apart from that, the effects of traffic jams have an impact on physical and mental health, one of which is causing work stress, so with a flexible work arrangement policy that is well managed, of course, the support of facilities will provide benefits for agencies/institutions, especially for Indonesia, which is also famous for its country image with the level of congestion.

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