Universitas Bhayangkara Jakarta Raya

Yuri Delano Regent <yuri.delano@dsn.ubharajaya.ac.id>

Letter from International Journal of Industrial Engineering & Production Research

2 pesan

International Journa of Industrial Engineering and Production Research <ijie@iust.ac.ir> 14 Juli 2024 pukul 09.38
Balas Ke: International Journa of Industrial Engineering and Production Research <ijie@iust.ac.ir>
Kepada: "yuri.delano@dsn.ubharajaya.ac.id" <yuri.delano@dsn.ubharajaya.ac.id>

Dear Yuri Delano Regent Montororing

This is an information letter about your article status in International Journal of Industrial Engineering & Production Research site.

You can study the reviewer comments below.

[Login to the site]

Article code: ART-2063

Article title: Model of Flow Shop Scheduling Problems Considering Multi-Item Testing Operations, Multiple Due Dates, And Sequence Dependent Setup Times

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Comments of one reviewer with code: A-2063-3779 at the date of: 2024/07/13
Reviewer: (12)

Reviewer:

1 - Subject Matter

Within the main scope of the journal

2 - Originality

Unaware of similar papers

3 - Title

Accurately reflects content

4 - Language

Grammatically Correct

5 - Abstract

Shoud be rewritten

6 - Presentation

Good

7 - Illustrations

Good

8 - Tables

Good

9 - abbreviations, Formulae, Units

Confirm to acceptable standards

10 - References

Insufficient

11 - Grading of Paper

Good----------(70-85)

12 - Recommendation

Major amendments required

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3. General Assessment

3-1. Originality

---

13 - Originality

Good

3-2. Technical Quality

---

14 - Technical Quality

Excellent

3-3. Clarity of Presentation

---

15 - Clarity of Presentation

Excellent

3-4. Importance of Field

---

16 - Importance of Field

Good

Please give your comments on the quality of th paper

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17 - 1. Nobility

Good

18 - 2. Quality and Credibility of Results

Good

19 - 3. Gerneral Final Opinion

This research proposes robust mathematical models for intricate scheduling requirements. The proposed approach seeks to optimize manufacturing operations by effectively handling complex scheduling needs, thereby minimizing production costs and enhancing operational efficiency. The paper is good to be considered for any possible publication. However, there are some comments to improve it as follows:
a) Focus more on the main contributions in the abstract and revise it.
b) Clarify and explain your work contributions and the research gap more at the end of the introduction or literature review.
c) Add a table at the end of the literature review section and specify the differences between your work and the other reviewed papers.
e) Add some papers to the literature review. Some suggestions to improve the literature review section are as follows:
"Minimizing the maximum tardiness and makespan criteria in a job shop scheduling problem with sequence dependent setup times." Journal of industrial and systems engineering 11, no. 2 (2018): 134-150.
"A data mining-based solution method for flow shop scheduling problems." Scientia Iranica 28, no. 2 (2021): 950-969.
f) Clarify the problem description after the literature review, especially by providing more explanations with some figures.
g) What are the contributions of the presented mathematical model?
l) Did you use the real data from the industry?
m) More explanations on the sensitivity analyses are needed.
n) Provide some more managerial insights before the conclusion.
k) Expand the critical results in the conclusion. Focus on the main results in the conclusion. Also, write the main contributions in the conclusion. :

Sincerely,
Site Manager

International Journa of Industrial Engineering and Production Research <ijie@iust.ac.ir> 14 Juli 2024 pukul 09.39
Balas Ke: International Journa of Industrial Engineering and Production Research <ijie@iust.ac.ir>
Kepada: "yuri.delano@dsn.ubharajaya.ac.id" <yuri.delano@dsn.ubharajaya.ac.id>

International Journal of
Industrial Engineering & Production Research
(A Branch of International Journal of Engineering Science)
ISSN:2008-4889

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Reviewer: (12)

Reviewer:

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Within the main scope of the journal

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Unaware of similar papers

3 - Title

Accurately reflects content

4 - Language

Grammatically Correct

5 - Abstract

Clear and adequate

6 - Presentation

Shoud be rearranged

7 - Illustrations

Good

8 - Tables

Good

9 - abbreviations, Formulae, Units

Needs Revision

10 - References

Appropriate

11 - Grading of Paper

Good----------(70-85)

12 - Recommendation

Publish after minor amendment

3. General Assessment

3-1. Originality

13 - Originality

Fair

3-2. Technical Quality

14 - Technical Quality

Fair

3-3. Clarity of Presentation

15 - Clarity of Presentation

Good

3-4. Importance of Field

16 - Importance of Field

Fair

Please give your comments on the quality of th paper

17 - 1. Nobility

Nobility of the article is good

18 - 2. Quality and Credibility of Results

Quality and credibility of results are fair

19 - 3. Gerneral Final Opinion

After reading the article following concerns are raised:
1- check the abbreviations and make sure before using the abbreviations the first time they clearly defined
2- Increase the readability of the Figure 3
3- In conclusion, discuss strange points and shortcomings of the model
4- explain the managerial implication of the work
5- in summary of literature review explain the research gap
:

Sincerely,
Site Manager

Universitas
Bhayangkara
Jakarta Raya

Yuri Delano Regent <yuri.delano@dsn.ubharajaya.ac.id>

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5- in summary of literature review explain the research gap
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Sincerely,
Site Manager

Art. Cod: 2063

Yuri Delano Regent <yuri.delano@dsn.ubharajaya.ac.id> 16 Juli 2024 pukul 14.52
Kepada: Mohammad Saidi-Mehrabad <journals54116@gmail.com>

Ok, I will do it.

1- check the abbreviations and make sure before using the abbreviations the first time they clearly defined

done at the paper

2- Increase the readability of the Figure 3

done at the paper

3- In conclusion, discuss strange points and shortcomings of the model

After calculating the total costs generated through this simulation experiment, the most negligible cost is $300. Regular jobs 1 and 2 can be completed on time. The model can accommodate express jobs and can be completed right on schedule without any waiting time. However, regular job 3 is delayed, resulting in tardiness penalties. In sensitivity analysis, if an express job exists after jobs 1 and 3, the simulation result is that all regular and express jobs can be done in time. For future development, this model still needs to consider the existence of defective products where product defects include reworked products and scrap products.

4- explain the managerial implication of the work

This model effectively handles the complex scheduling testing operations in inspection companies for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs, focusing on minimizing production costs which is can help company scheduling their production more efectively.

5- in summary of literature review explain the research gap

Author	Gap
Dessouky (1998)	The model doesn't consider multiple due dates for each scheduled job, which is crucial in real-world scenarios where different jobs may have different deadlines.
Arabameri (2018)	This model limitation lies in its assumption that jobs are non-identical, overlooking the presence of identical jobs that are common in natural systems.
Nogueira (2014)	This model needs to better account for the presence of similar jobs in the scheduling process.
Kyparisis (2013)	The model needs to address the practical aspect of sequence-dependent setup times in the context of identical or similar jobs.
Zhao (2018)	This model doesn't consider that machine setup times can vary with each job change, which significantly impacts scheduling efficiency.
Hsu (2019)	The model does not provide a comprehensive solution for minimizing these impacts in a scheduling context.
This Research (2024)	1. Build a robust mathematical model for flow shop scheduling that can effectively handle the complex scheduling requirements in the field, particularly those related to scheduling testing operations for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs. 2. Develop an efficient problem-solving algorithm in the form of a testing operation scheduling optimization system that focuses on minimizing production costs. 3. Implement the flow shop scheduling optimization algorithm in real-world scenarios, where its effectiveness can be evaluated and improved.

a) Focus more on the main contributions in the abstract and revise it.

The proposed approach seeks to optimize manufacturing operations by effectively handling complex scheduling needs, thereby minimizing production costs and enhancing operational efficiency. This research endeavors to develop and implement a robust mathematical model and an efficient problem-solving algorithm for optimizing flow shop scheduling considering Multi-Item Testing Operations, Multiple Due Dates, And Sequence Dependent Setup Times on the complex requirements in real-world scenarios.

b) Clarify and explain your work contributions and the research gap more at the end of the introduction or literature review.

1. Build a robust mathematical model for flow shop scheduling that can effectively handle the complex scheduling requirements in the field, particularly those related to scheduling testing operations for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs.
2. Develop an efficient problem-solving algorithm in the form of a testing operation scheduling optimization system that focuses on minimizing production costs.
3. Implement the flow shop scheduling optimization algorithm in real-world scenarios, where its effectiveness can be evaluated and improved.

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done at the paper

e) Add some papers to the literature review. Some suggestions to improve the literature review section are as follows:
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"A data mining-based solution method for flow shop scheduling problems." Scientia Iranica 28, no. 2 (2021): 950-969.

done at the paper

f) Clarify the problem description after the literature review, especially by providing more explanations with some figures.

done at the paper

g) What are the contributions of the presented mathematical model?

This model effectively handles the complex scheduling testing operations in inspection companies for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs, focusing on minimizing production costs.

l) Did you use the real data from the industry?

Yes, I Did, at the automotive laboratory for car wheel testing

m) More explanations on the sensitivity analyses are needed.

Sensitivity Analysis

Tab 3. Simulation Parameter

Variable	Parameter	
	Case 1	Case 2
Number of Machine	3 machine	3 machine
Express Job After	Job 1	After Job 3
Processing Time a	7 hrs	7 hrs
Processing Time b	6 hrs	6 hrs
Processing Time c	6 hrs	6 hrs
Setup Time	1 hrs	12 hrs
Due date	6 days	8 days
Reguler Cost	$70	$70
Earliness Cost	$120	$120
Tardiness penalty	$30	$30

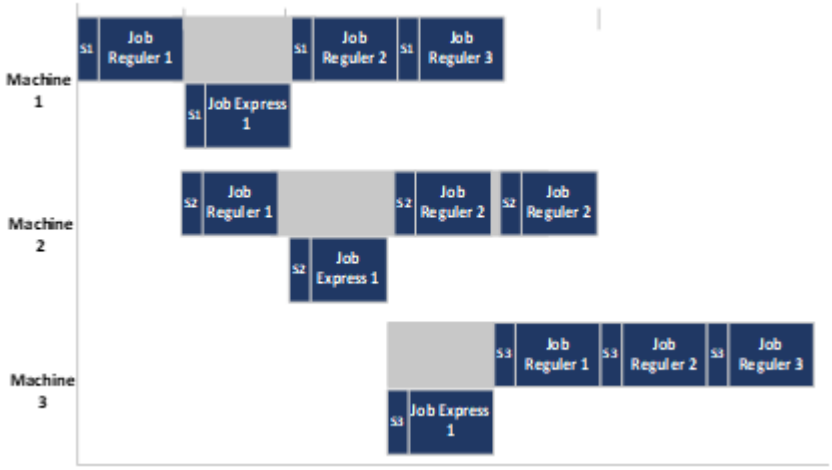

Fig 6. Gant Chart Result Case 1

Figure 6 is the Gant Chart result for case 1. Express job simulated exist after job regular 1 is done. All of the express jobs can be completed right on schedule without any waiting time. In all regular job, there is no delay.

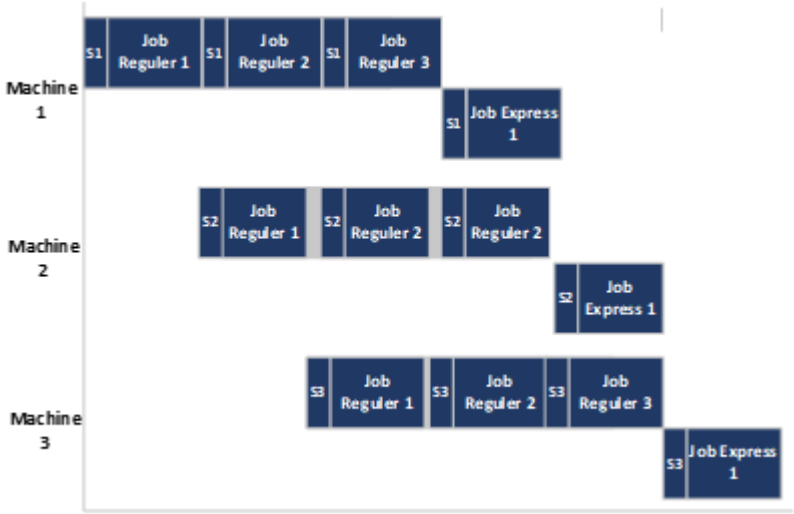

Fig 7. Gant Chart Result Case 2

Figure 6 is the Gant Chart result for case 1. Express job simulated exist after job regular 3 is done. All of the express jobs can be completed right on schedule without any waiting time. In all regular job, there is no delay.

n) Provide some more managerial insights before the conclusion.

This model effectively handles the complex scheduling testing operations in inspection companies for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs, focusing on minimizing production costs.

k) Expand the critical results in the conclusion. Focus on the main results in the conclusion. Also, write the main contributions in the conclusion.

This model effectively handles the complex scheduling testing operations in inspection companies for multiple items, multiple due dates, sequence-dependent setup times, and priority jobs, focusing on minimizing production costs. After calculating the total costs generated through this simulation experiment, the most negligible cost is $300. Regular jobs 1 and 2 can be completed on time. The model can accommodate express jobs and can be completed right on schedule without any waiting time. However, regular job 3 is delayed, resulting in tardiness penalties. In sensitivity analysis, if an express job exists after jobs 1 and 3, the simulation result is that all regular and express jobs can be done in time. For future development, this model still needs to consider the existence of defective products where product defects include reworked products and scrap products.

[Kutipan teks disembunyikan]

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