CHAPTER 7
CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION

Based on the results of the research conducted, the following conclusions can be drawn:

1. The main issues at CV Andita Swarga Mahakarya relate to the risk of overstock, limited warehouse capacity, and an inventory organization system that is not yet fully structured.

2. The inventory control simulation using a combination of Economic Order Quantity (Q) and Reorder Point (ROP) were able to reduce the average overstock from 28.20 bales to 9.97 bales and the average total inventory cost also decreased from Rp1,989.89 to Rp1,800.26 following the simulation.

3. The warehouse layout redesign, based on FSN classification and the dedicated storage method. The redesign was fully implemented and successfully optimized

4. A VBA-based information system in Microsoft Excel successfully replaced the manual record-keeping system, which was prone to human error and data loss. This system provides a real-time inventory monitoring dashboard, automatic alerts when inventory approaches the minimum threshold, and automated sales invoice printing.

5. A role-based access control mechanism has been established to ensure data security by limiting access rights for warehouse staff and cashiers according to their respective roles.

6. A Role-Based Access Control (RBAC) mechanism was established through the login form and a user access rights matrix, restricting each stakeholder to only the forms and functions relevant to the their respective role, thereby maintaining the security and integrity of company data

7. The integration of the three proposed solution the Warehouse layout redesign, the EOQ-ROP based inventory control policy, and the VBA based inventory information system demonstrates a holistic approach to reducing the risk of overstock at CV Andita Swarga Mahakarya.

8. As long as the resulting storage patterns, stock levels, and the flow of goods in and out remain consistent with the current warehouse conditions, these design results can continue to used sustainably by the company going forward.

7.2 RECOMMENDATION

Based on the results of the research and implementation carried out, the following recommendations can be made:

1. The company should maintain the layout established during implementation to ensure that merchandise remains organized and is not returned to random placement.

2. Each product should be placed in the designated zone according to the dedicated storage method to ensure storage locations remain clearly defined. Fast-moving products—namely Habbat's and Tani Madjoe—should remain in areas that are more easily accessible to speed up the picking process. Slow-moving products—namely Assikkah Gold and CK—can still be placed in a dedicated area that does not obstruct the main aisles.

3. The company must ensure that product movement pathways remain unobstructed by product piles so that receiving, storage, picking, and shipping activities can proceed smoothly.

4. Shelf capacity must be monitored to ensure that goods are not stored beyond storage limits.

5. The company is advised to conduct periodic evaluations of the FSN classification in the event of changes in demand patterns or stock levels.

6. The results of the EOQ and ROP simulations can be used as a basis for decision-making when the MOU with the supplier has expired or when the company has the flexibility to determine its own ordering policy.

7. The company should back up Excel data weekly to a separate storage medium to prevent data loss due to device failure or data corruption.

8. It is recommended to perform routine maintenance on VBA macros and update stock limit data if new product types are added or warehouse capacity changes in the future.

9. Future research could include an analysis of goods movement distances, picking times, and an evaluation of rack structural strength to make the design results more comprehensive.

10. The scope could also be expanded by adding an analysis of goods movement distances and an evaluation of picking times.

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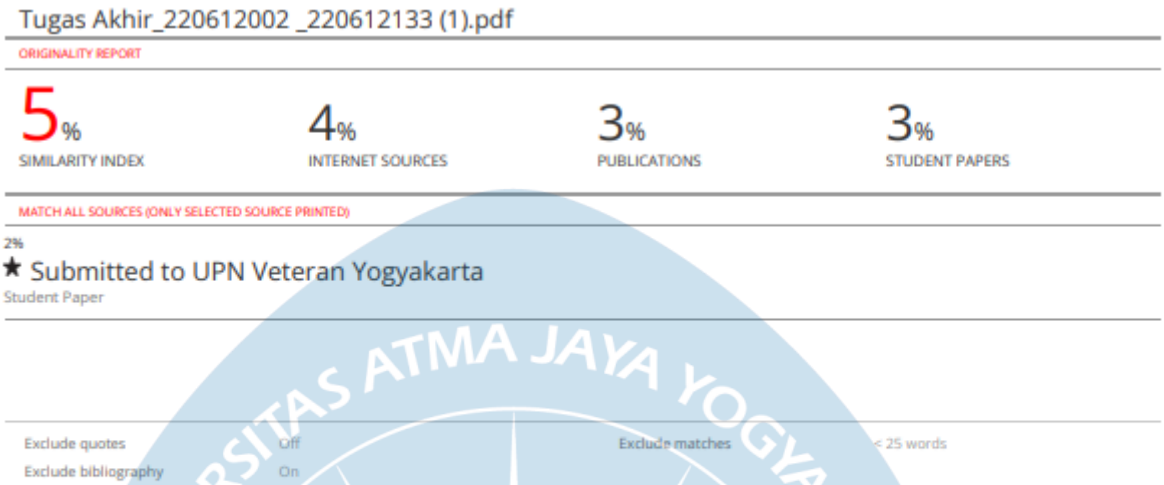
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APPENDIX

Attachment 1 Similarity check by Turnitin by UAJY Library Staff



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Attachment 2 Letter of Approval from the Company

Nomor : 007/ASM/OPS/XII/2025
Lampiran : -
Perihal : Pemberitahuan Rencana Penelitian

Kepada Yth.
Bapak Ir. Twin Yoshua R. Destyanto, S.T., M.Sc., Ph.D., IPM
Ketua Program Studi Teknik Industri UAJY

Dengan hormat,

Sehubungan dengan pelaksanaan kegiatan penelitian, bersama ini kami sampaikan bahwa mahasiswa Program Studi Teknik Industri Universitas Atma Jaya Yogyakarta yang tercantum di bawah ini akan melaksanakan penelitian di CV Andita Swarga Mahakarya.

No	Nama	NPM
1	Wildhelmus Tandioga	220612002
2	Seftianus Redi	220612133
3	Fricilia Natalee Adesta	221412149

Kegiatan penelitian tersebut dilaksanakan dalam rangka pemenuhan persyaratan akademik dan penyusunan tugas akhir mahasiswa. Penelitian ini akan dilaksanakan di lingkungan CV Andita Swarga Mahakarya sesuai dengan ketentuan dan prosedur yang berlaku.

Adapun pelaksanaan kegiatan penelitian direncanakan berlangsung pada tanggal 14 September 2025 – 14 Maret 2026.

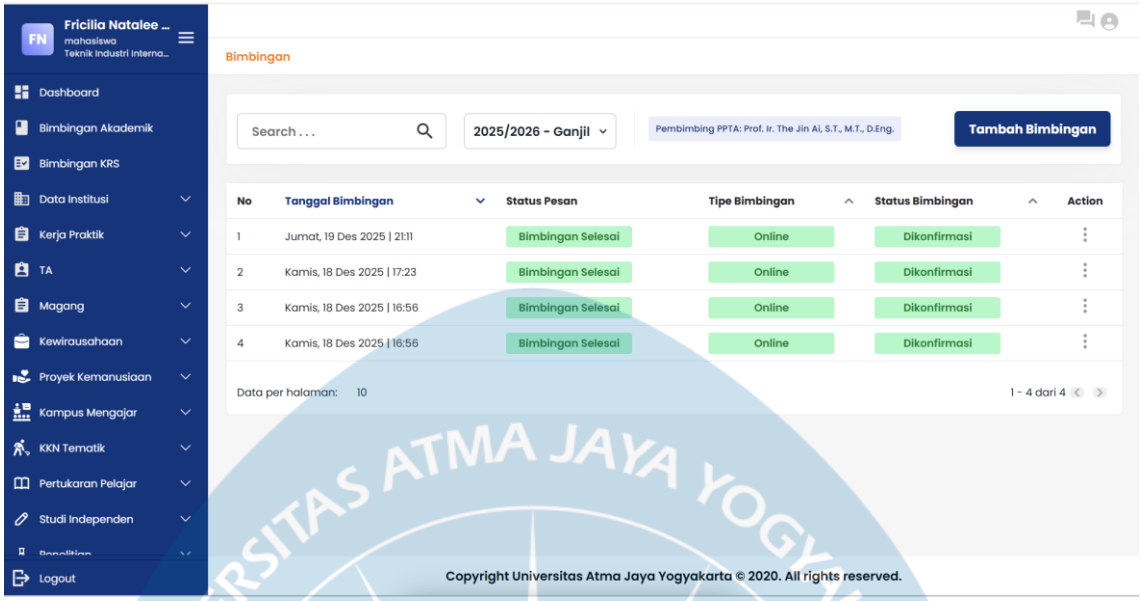
Demikian surat pemberitahuan ini kami sampaikan untuk dapat diketahui dan dipergunakan sebagaimana mestinya. Atas perhatian serta kerja sama yang baik, kami ucapkan terima kasih.

Magelang, 19 Desember 2025

Hormat kami,
CV Andita Swarga Mahakarya

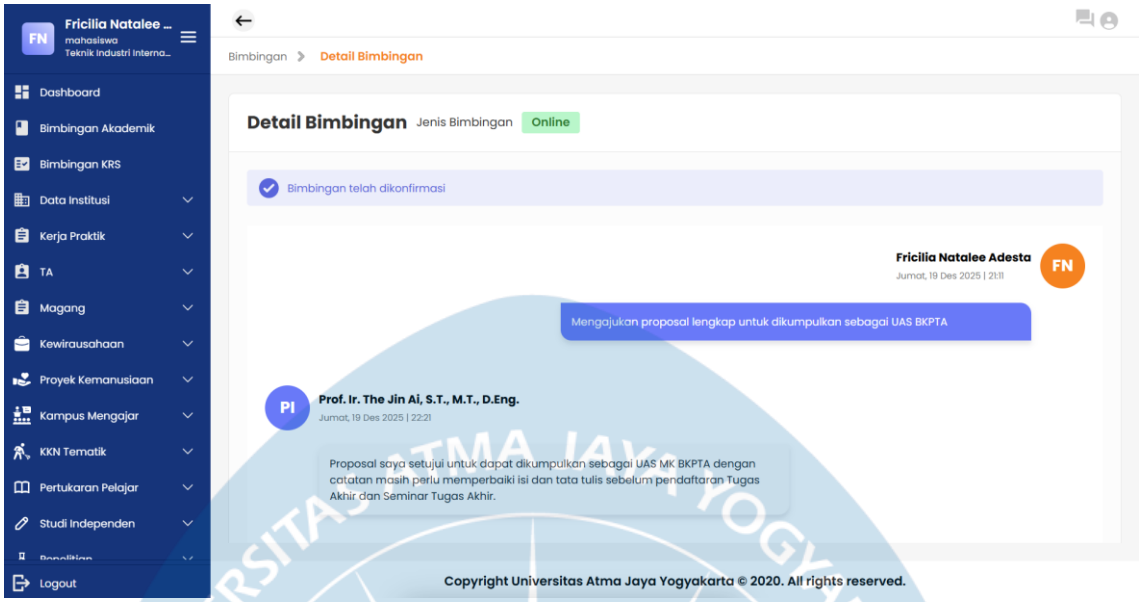
Lucia Darakartini Arvandita
Direktur Operasional

Attachment 3 Student Logbook 1



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Attachment 4 Screenshot of supervisor's notes on proposal



Attachment 5 Statement of commitment

SURAT PERNYATAAN PELAKSANAAN TUGAS AKHIR
SEBAGAI *CAPSTONE DESIGN PROJECT* SECARA BERKELOMPOK

Kami yang bertanda tangan di bawah ini:

No	Nama Mahasiswa	NPM
1	Wildhelmus Tandioga	220612002
2	Seftianus Redi	220612133
3	Fricilia Natalee Adesta	221412149

Dengan ini menyatakan bahwa kami akan melaksanakan **Tugas Akhir dalam bentuk *Capstone Design Project*** secara **berkelompok**, dengan judul/topik yang diusulkan:

Perancangan Pengendalian Persediaan Bahan Baku Menggunakan Relayouting, order quantity, dan VBA untuk Meminimalkan Risiko Overstock dan Stockout di CV ANDITA SWARGA MAHAKARYA

Adapun pernyataan komitmen kami adalah sebagai berikut:

1. Setiap anggota kelompok menjalankan Tugas Akhir tersebut secara kolaboratif, profesional, dan bertanggung jawab sesuai kaidah akademik yang berlaku di Departemen Teknik Industri FTI UAJY.
2. Setiap anggota kelompok bertanggung jawab untuk memberikan kontribusi yang proporsional dan melaksanakan tugas sesuai pembagian peran yang disepakati.
3. Setiap anggota kelompok menjalankan seluruh proses sesuai ketentuan yang berlaku di Departemen Teknik Industri FTI UAJY dan menjunjung tinggi integritas akademik.
4. Apabila di kemudian hari terdapat pelanggaran terhadap ketentuan akademik atau ketidaksesuaian dalam pelaksanaan tugas, kami bersedia menerima sangsi sesuai peraturan yang ditetapkan oleh Departemen Teknik Industri FTI UAJY.

Demikian surat pernyataan ini dibuat dengan sebenar-benarnya untuk dipergunakan sebagaimana mestinya.

Yogyakarta, 18 Desember 2025

Tanda Tangan

Wildhelmus Tandioga



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