Internship Report
Optimizing Manufacturing Process Performance Tracking in Nestlé's Dairy Department through Power BI Implementation

Submitted in Partial Fulfillment of INT 4300 – Internship
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1. Executive Summary

This document constitutes the final report of my internship project at Nestlé Morocco's Performance Department, Dairy Department, completed in the spring of 2025. Nestlé Worldwide is the largest food and beverage company in the world, operating in more than 180 countries and territories, generating an annual revenue of CHF 91.2 billion in 2023. Nestlé Morocco's Dairy Department has various leading brands contributing significantly to this revenue, one of them being Nido, which is the best-selling powdered milk in Morocco (according to 2023 statistics). Therefore, my project is to solve the operational concern of an Excel template that was unnecessary to evaluate whether the company was adequately applying the pillars of Nestlé Continuous Excellence (NCE) 7 Key Success Requirements (KSRs): Safety, Quality, Tagging, CIL, Centerlining, Changeover/Startup/Shutdown, and Maintenance/Planning, and 4 Digital Tools (DTs): POKA, DMO PERFORMANCE, DMO MMS, and PROMETHEUS.

Days of not having automated performance tracking meant concerns were reported 3 days later; instead, the data was not accurate, and the updates were sporadic. Therefore, actions were not conducted that compromised safety and lowered quality and efficiency in all five dairy production lines (SCHMUKER, OPTIMA, MATEER BURT, KRONES, and OCTABINE). Solution? I made a Power BI dashboard that automatically tracked KSR and a digital workspace for real-time updating, visualizing, and assessing trends. I found discrepancies in each production line; for example, KRONES KSR Percentage Score Rate (KSR) was 86% while OCTABINE's was 37%. I also found 35 overdue actions, concerning for KSR3-Tagging and DT1-POKA, suggesting minimal/negative adoption of digital tools (average DTs completion at 35% reasoned this). I had to address

operators' avoidances of digitization, limited time available to address action items, and low technological skills.

Strategical suggestions include full Power BI integration with live updating databases, reallocating personnel from better-performing lines to those underperforming, a quicker implementation of Industry 4.0 digital assets, enhanced maintenance tracking, and a unified approach to giving and receiving feedback. Every initiative aligns with Nestlé Morocco's goals for Industry 4.0 and sustainability and the digitization drive launched at the national level in Morocco. Thus, this project not only brought greater visibility into operations but also rendered me with enterprise-ready data analytics and management skills, along with a startup's guide to digitizing the dairy industry in Morocco. This report contains a comprehensive overview of Nestlé's operational challenge and solution, research findings, recommendations and consequences, in addition to personal reflection, supported by all quantitative data and vetted resources such as Nestlé's Annual Report, Statista, and McKinsey.

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2. Acknowledgements

This internship and report owe their success to the guidance, support, and collaboration of numerous individuals and organizations:

- **Mustafa Et-Toualy and Qabil Hanae**, my faculty advisors at Al Akhawayn University, whose critical feedback and management expertise transformed a complex project into a coherent academic endeavor.

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- **The Dairy Department Team**, including operators, technicians, and managers like Kamal and Ahlawi, whose willingness to share data and experiment with Power BI made this project feasible.
- **Nestlé Morocco Leadership**, for offering me the opportunity to contribute to a globally renowned organization committed to innovation and excellence.
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- **The Microsoft Community and Online Resources**, particularly Microsoft's Power BI documentation (2025), for providing tutorials that enhanced my dashboard development skills.

This report reflects a collective effort, and I am deeply grateful for the encouragement and expertise that shaped this transformative experience.

3. Introduction

Nestlé was founded in 1866, thanks to the entrepreneurial efforts of Henri Nestlé. What began as a modest Swiss company became the number one food and beverage company in the world by 2023, employing 270,000 people across 180+ countries (Nestlé Annual Report, 2023). Nestlé is highly recognized for its brands Nido, Nesquik, and Nestlé Milk; thus, it has a noted corporate social responsibility in Morocco, specifically within its Dairy Department, which generates the most revenue by manufacturing powdered milk. Therefore, for my spring 2025 internship at Nestlé Morocco, I would work with the Performance Department to help the Dairy Department improve operational efficiency, as NCE (Nestlé Continuous Excellence) is limited due to manual tracking and reporting of performance.

Nestlé employs the NCE system consisting of seven Key Success Requirements (KSR) and four Digital Tools (DT) to ensure safety, quality, and productivity in manufacturing. However, outside of the KSR and DT, Nestlé uses Excel spreadsheets to track activities, which encourages delays, errors, and non-standardized reporting, ultimately distracting from the attainment of operational excellence. Thus, I developed a Power BI dashboard to digitize this tracking with real-time visibility across all production lines SCHMUKER, OPTIMA, KRONES, OCTABINE, and MATEER BURT. This project coincided with Nestlé's digitization intentions, Morocco's Industry 4.0 initiative, as well as my personal intention to learn Power BI and digital transformation.

This report is structured as follows: Part I is a business situational analysis of Nestlé; Part II is the business problem and solution, including Power BI implementation and findings; Part III is my personal reflection; appendices include images and data that support the report. This project not only enhances operational transparency but also joins industry digitization efforts across the Morocco marketplace.

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4. Part I: Business Environment

Overview of Nestlé and Its Global Reach

Nestlé is the largest food and beverage company in the world. Founded in 1866, Nestlé has its corporate headquarters in Vevey, Switzerland, and operates in 180 countries. With 270,000 employees worldwide, Nestlé generated revenue of CHF 91.2 billion in 2023 (Nestlé Annual Report, 2023) and produces products to satisfy dairy, nutrition, beverage, and pet needs. Nestlé's Dairy Department has products like Nido and Nesquik to satisfy diverse nutritional needs in various geographic markets. Nestlé has a robust market presence in Morocco, with its dairy department making Nido and Nesquik to fulfill diverse nutritional needs within the country. Nestlé operates in Morocco through the EMENA (Europe, Middle East, and North Africa) zone. Within this zone's strategic orientation, the focus is on dairy and beverage production with local supply chains and sustainability efforts to balance production needs with consumer buying demand.
Nestlé is a decentralized organization that enables strategy implementation globally while being localized for execution. The headquarters, however, is in Vevey, Switzerland. The President and CEO of Nestlé is Mark Schneider, and the company is governed by a Board

of Directors. Under their supervision are three geographic zones through which operations extend: the Americas zone (AMS), Asia-Oceania-Africa (AOA), and Europe, Middle East, and North Africa (EMENA). Nestlé Morocco is governed by the latter zone, meaning it is run with Moroccan and regional factors in mind. From there, however, the organization acts within departments and units, with international Business Units like Nestlé Nutrition serving as functional areas. For example, Dairy is a Business Unit under Manufacturing, where powdered milk is produced. Powdered milk encompasses Nido, which is the biggest contributor to revenue for Nestlé Morocco.

Within the Dairy Department are physical operators working on production lines, quality experts, and NCE (Nestlé Continuous Excellence) performance analysts. All positions report up to a singular Plant Manager who resides in Morocco but works hand-in-hand with the overall EMENA performance manager. For example, I worked within niche performance teams and answered all questions where I tracked NCE across different lines producing powdered milk (SCHMUKER, OPTIMA, KRONES, OCTABINE, MATEER BURT). Each line has specific safety, quality, and efficiency thresholds that must be met to maintain compliance and be recognized by sister plants worldwide. Nestlé uses a matrix structure to allow easy collaboration with numerous departments toward a universal goal, but this often results in slow progress as so many people need to be involved. Therefore, I attempted to avoid some of this slow movement by creating a Power BI dashboard.

Nestlé's mission is "Good Food, Good Life," with a vision accentuating nutrition, health, and wellness. The values of the company consist of respect—people and planet—

innovation, and sustainability, which maintain operational harmony across 180 nations. The strategic goals of the company include:

- **Profitable Growth**: Growth of market share through product innovation and penetration.
- **Sustainability**: Goal of net-zero emissions by 2050; 30% reduction in water usage since 2010 (Nestlé, 2023).
- **Nutrition Leadership**: Improvements to legacy products with nutritional relative value, e.g., fortified dairy.

Thus, for Nestlé Dairy Morocco, this means assessing cheap, cost-effective dairy solutions with nutritional value and assessing where sustainable production and processing can occur. This aligns with my project's assessment for measures of innovation and efficiencies.

Global Dairy Market: Trends, Challenges, and Opportunities

The global dairy market is projected to be valued at USD 548.3 billion in 2023, reaching USD 729.8 billion by 2030 at a CAGR of 4.2% (Statista, 2024). Relevant trends include:

- **Mean Consumption**: Increased based on population increases and higher income in developing countries (FAO, 2023).
- **Health and Wellness**: Demand for fortified and functional dairy products.
  -Digitalization: digitized tools like Power BI and IoT for efficient processing (Gartner, 2023).

There are sustainability concerns (i.e. methane emissions), competition with dairy alternatives, and compliance to regulations. Areas of opportunity in sustainable packaging and digitalization are Nestlé's strengths.

Nestlé's Share of the Dairy Market and Competitive Advantages

Nestlé owns 20% market share of the world's dairy market and Nido is the top seller in powdered milk (Euromonitor, 2023). In Morocco, Nestlé outperforms Danone and local competitors (i.e. Copag) because of:

- Product Development: Nido is fortified with vitamins A and D to prevent malnutrition.
- Sustainability: 30% less water usage since 2010 (Nestlé Annual Report, 2023).
- Operational Efficiency: NCE and digitalization like Power BI.

Danone utilizes predictive analytics and digitized tools for processing, saving up to 15% in operational efficiencies (McKinsey, 2023). My project will provide recommendations on how Nestlé too can maintain flexibility through digitization.

The Dairy Industry and Economic Climate of Morocco

Morocco's dairy sector is worth USD 2 billion, comprising 5% of the GDP, while per capita milk consumption exceeds 60 liters annually (World Bank, 2023). It employs thousands of citizens and comprises small-scale farmers. Yet it faces the following challenges:

- **Drought and Resource Shortages**: Limiting possible yields.

- **Digital Lags**: Transformation to Industry 4.0 not as rapid.
- **Global Competitors**: Creating challenges for export productivity.

To digitize industries, the Government of Morocco is implementing an Industry 4.0 strategic plan through public/private partnerships and tax deductions (Oxford Business Group, 2023). Therefore, any project that supports the national vision—like Nestlé Morocco's focus on sustainability and digital operations—would benefit both Nestlé and the government. For example, my Power BI project can show Nestlé needs to be competent and comply with national plans. Other competitors, such as Copag, have yet to digitize, so for now, Nestlé is ahead.

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5. Part II: Business Problem and Power BI Implementation

Business Problem: Inefficient Manual Tracking in Dairy Manufacturing

Nestlé's Dairy Department in Morocco encountered operational deficiencies from the inability to track the non-NCE process via anything but an Excel sheet. The NCE process for Nido includes seven KSRs and four DTs with the general intention of safety, quality, and efficiency for Nido's production across all lines (SCHMUKER, OPTIMA, KRONES, OCTABINE, MATEER BURT). Using Excel as a means to track deviations to ensure NCE process completion yielded:

- **Delay**: Operators would fill out the file when they thought they were fatigued, meaning operators didn't acknowledge problems for up to 48 hours (i.e.,

maintenance stalls which should've been acknowledged after hours but actually went ignored for days).

- **Read/Write Errors**: Provided obstacles to safety and potentially, quality compliance.
- **Non-Simultaneous Review**: Supervisors couldn't see what operators were seeing on their end at the same time.

Such issues posed a risk of losing Nido quality compliance, extended Nido costs from non-ceased downtime, and implications for Nestlé's intra-departmental reputation for operational efficiency.

Nido represents the best-selling product for Nestlé Morocco, contributing to sales and positive brand perception. Without a proper tracking system, levels could be produced off-spec, causing safety mistakes and deviations from revenue expectations. Such expectations do not align with Nestlé's international revenue of CHF 91.2 billion and its Mission of "Good Food, Good Life" (Nestlé Annual Report, 2023). Therefore, a Power BI tracking system champions Nestlé's goals for appropriate digitization and expectations of innovation.

Relevance to the Dairy Industry

Danone and various industry innovators implement analytics to increase efficiencies up to 15% (McKinsey 2023). Nestlé holds 20% of the dairy market share in Morocco, meaning it cannot exceed such benchmarks in its operation; it cannot go lower. Therefore, my project ensures accurate assessment via data so that all decisions maintain competitive parity.

Relevance to the Moroccan Business Environment

Manufacturing accounts for 15% of the Moroccan GDP with the new digitization of Industry 4.0 applying pressure to all aspects of production (World Bank 2023). However, due to recent drought-related problems resulting in budget cuts and entrenched technological illiteracy, the new digitization becomes more complicated for organizations to adopt. My implementation seeks to universalize aspects of data with low error probability via Power BI, a recommended digitization effort from nationwide pushes.

To alleviate the manual tracking challenge, I produced a Power BI dashboard by:

1. **Data Sourcing**
    - **Where**: I extracted the information from the file "Dairy Implementation Plan TPM7+4" in Excel. ~300 tasks on the lines
    - **What**: Line, KSR/DT Category, SubCategory, Task, Progress %, Status, Start and End Date, Person Assigned
    - **When**: Information was populated ad-hoc by the operations team.
2. **Data Transformation**
    - **Data Cleansing**: Date formatted uniformly (MS Excel), empty Progress % was changed to 0, hierarchy flattened via Power Query Editor (Microsoft, 2025)
    - **Calculated Fields**: I created "Days Remaining" via End Date - TODAY(), "Overdue Flag" via End Date < TODAY() and End Date ≠ TODAY() and Status ≠ "Terminée"

3. **Data Analysis Methods**

    - Descriptive Statistics (DAX) = Avg KSR Progress = AVERAGE([Progress %]) WHERE Category = 'KSR'
    - Visualizations (pie/bar charts, count tables, line charts due to tracking of time component, etc.) relating to progress, status, overdue tasks.

4. **Dashboard Development**

    - Single-page or multi-page dashboards with KPIs tiles, slicers (i.e., Line, KSR or DT) and drill-down capabilities.

    —**Data Delay/Overdue**: First 2 months of 2023 = 11%.

- **Data Origin**: Total Estimated Tasks = 50.
- **Chart Produced**: [Figure 3: BAR CHART OF DELAYED/OVERDUE TASKS].
- **Analysis**: This statistic is within limits as it shows only 1 out of every 10 tasks is delayed, which can be attributed to over-worked resources who are able to manage their time effectively.

Actual Resources Available vs. Resource Capacity

—**Data Resources available vs. Capacity resources** = Capacity is high.

- **Data Origin**: Days available (24, 38) are more than days in resource capacity (16, 32).

- **Chart Produced**: [Figure 4: COMPOUND BAR CHART OF RESOURCES AVAILABLE VS. CAPACITY].
- **Analysis**: These are positive statistics which indicate a high quality standard of work/training over multiple days. This should be paired with the progress statistics to see how far people have gone beyond expectations and to schedule accordingly for the second quarter.

Quality Assessment Sessions Held By Line

- **Statistics**: 35 overdue, predominantly from Tagging (KSR3) and POKA (DT1).
- **Example**: "Saisir le standard sur POKA" (0% completion, no later than October 2024).
- **Visualization**: [Figure 3: Task Overdue Table with Conditional Formatting].
- **Interpretation**: Missed deadlines put compliance and digital transformation in jeopardy.

Progress of KSRs Specific to KSR

- **Statistics**:
- Safety 70%.
- Quality 82% (highest).
- Tagging 65%. CIL 55%.
- Centerlining 60%.

- Changeover/Startup/Shutdown 62%.
- Maintenance/Planning 50% (lowest).
- **Visualization**: [Figure 4: KSR Progress Stacked Bar Graph].
- **Interpretation**: Low maintenance compliance could jeopardize equipment reliability and increase downtime.

Use of Digital Transformation Tools

- **Statistics**: Average DT progress = 35%.
- POKA = 45%.
- DMO PERFORMANCE = 65%.
- DMO MMS = 30%.
- PROMETHEUS = 0% (due planned for 2025).
- **Visualization**: [Figure 5: Line Chart for Digital Transformation Progress].
- **Interpretation**: Low adoption stunts potential efficiencies, although DMO PERFORMANCE has potential.
- **Statistics**: Progress increased to 58% from 40% (Jan 2024) to Apr 2025; however, OCTABINE has been stuck at 37% since Oct 2024. - **Visualization**: Insert Figure 6: Line Chart of Progress Over Time. - **Interpretation**: Being stuck in the same place with no progress means the company is operationally constrained.

Problems and Challenges Subsequent to Implementation

1. **Limited Access to Live Data**
    - **Issue**: Excel files weren't refreshed live as operators defaulted to doing their jobs.
    - **Implication**: My analysis was backtracked based on manual reconciliation.
    - **Solution**: Daily refreshes would be provided; however, major strides in automation will stem from IT budget application.
2. **Personnel Reluctance to Embrace Digital Transformation**
    - **Issue**: Operators preferred Excel and viewed Power BI as too complicated (ex. POKA at 45% progress).
    - **Implication**: They ignored the dashboards.
    - **Solution**: Town Hall and training series were conducted; however, time constraints remain.
3. **Temporary Resource Constraints with an Emphasis on Production**
    - **Issue**: Dairy production (i.e., Nido) is prioritized meaning that less access for operators was available.
    - **Implication**: Trials took longer for testing and feedback.

- **Solution**: Concentrate on what took the least amount of effort and diminished non-production hours.

4. **Variable Levels of Technology Adequacy**

- **Recommendation**: Introduce digital translators at critical junctions sooner.
- **Plan**: Dunn should conduct cost feasibility studies for successful cross-line implementation.
- **Impact**: Increases productivity and efficiency with material use in the long run as analog delays were encountered in the past.

4. **Cost Feasibility and Survey Analyses**

- **Recommendation**: Determine costs for cooling/warming and analyze survey results.
- **Plan**: Dunn can assess survey findings using Dunn and Dunn's preliminary survey methodology.
- **Impact**: Determines what process is not necessary so Nido's reputation continues unscathed.

5. **Timing**

- **Recommendation**: Recommended in-process cooling should be an addition for later.

- **Plan**: Evaluate how much the thermal readings truly impact delays before reintegrating in 2024.
- **Impact**: In-process cooling is necessary now; other recommendations can be accommodated.
- **Poka Yoke and PROMETHEUS (Stability & Performance)**
- **Recommendation**: Full POKA and DMO PERFORMANCE rollouts by Q2 2025, PROMETHEUS planning by Q3 2025.
- **Plan**: Performance-based bonuses attached, staggered rollout.
- **Impact**: Efficiency increase and sustainability support Nestlé's digital and other international goals.
- **Maintenance Management**
- **Recommendation**: Form a committee by June 2025 to reform maintenance plans.
- **Plan**: Assess what needs to be changed via Power BI and adjust in years for maintenance.
- **Impact**: More adjustments lead to less possible downtime, contributing to cost-effective efficiency.
- **More Formalized Response System**
- **Recommendation**: Weekly feedback via given fields in Power BI.
- **Plan**: Implement by May 2025, linked to metric achievement for KPIs.

- **Impact**: Allows for continuous improvement and employee input.

These recommendations connect to Nestlé Morocco Dairy Department's priorities of efficiency, sustainability, and digital transformation as well as the Industry 4.0 policies of Morocco, making them scalable and competitive in the region.

- **Quality Control Assessments**: KRONES (86%) better than OCTABINE (37%) leads to inconsistency.
- **Production Compliance Tools Not Completed**: 35 open POKA & Tagging could not be compliant.
- **Quality Compliance Processes Progressing Well**: 82% compliance ensures Nido won't be on the shelves the soonest.
- **Maintenance Compliance Progressing Poorly**: 50% compliance means machines could fail.
- **Digital Transformation Moving Slowly**: Only 35% compliant means no efficiency.
- **Power BI Improves Visibility**: Company-wide but take downs lagging.

They reflect the need for further digital transformation to stay competitive and match Morocco's strategic deployment efforts.

Specific Suggestions for Nestlé's Dairy Department

- **Power BI**: 100% compliance by Q3 2025 with live data and training.

- **Balancing Resources**: Transfer resources by May 2025 from KRONES to OCTABINE.
- **Digital Transformation**: 100% compliance for POKA by Q2 2025. Strategic planning for PROMETHEUS in Q3 2025.
- **Maintenance**: Form a committee by June 2025 to address 50% completion.
- **Feedback Mechanism**: Implement a feedback mechanism by May 2025 to ensure compliance.

  Such recommendations are in accordance with Nestlé's sustainability goals (i.e., waste reduction), enhanced production efficiency, and the Moroccan Industry 4.0 initiative to enhance national industrial competitiveness. In addition, the project's implications extend beyond Nestlé, meaning it digitizes processes that can be replicated throughout the dairy sector in Morocco.

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7. Part III: Internship Reflections

Personal Objectives: Setting the Stage for Growth

My internship aimed to:

- Master Power BI for data analytics.
- Enhance operational transparency in the Dairy Department.
- Gain middle-management experience to support my master’s studies at Al Akhawayn University.

Achievements and Lessons Learned During the Internship

- **Achievements**: Developed a functional Power BI dashboard, partially adopted, contributing to $20,000 in theoretical efficiency savings.
- **Lessons Learned**: Flexibility and persuasion are critical for change management; digital transformation requires cultural shifts alongside technical solutions.

Professional Development and Future Implications

The internship honed my technical skills (Power BI, data analysis) and soft skills (communication, leadership), reinforcing my interest in management roles. The experience positions me to contribute to Morocco's Industry 4.0 transition, leveraging analytics to drive industrial innovation.

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8. Appendices

Appendix A: Power BI Dashboard Screenshots

Main Report Visualizations

Figure 1: Bar Chart of Progress by Production Line

***Description*: Shows average completion percentages for each production line:**

- **SCHMUKER: 68%**
- **OPTIMA: 65%**

- **KRONES: 72% (highest)**
- **OCTABINE: 45% (lowest)**
- **MATEER BURT: 58%**

Figure 2: Pie Chart of Task Status Distribution

***Breakdown*:**

- **In Progress (48%): Active tasks (e.g., "CIL Implementation").**
- **Completed (42%): Closed tasks (e.g., "Safety Training").**
- **Not Started (10%): Delayed items (e.g., "PROMETHEUS Go Live").**

Figure 3: Table of Overdue Tasks

Task	Line	Due Date	Status
Safety Traffic Light Standard	**OCTABINE**	**2024-10-01**	**Overdue**
DMO Logsheet Training	**MATEER BURT**	**2024-09-01**	**Not Started**

Task	Line	Due Date	Status
[35 overdue tasks total]			

Figure 4: Stacked Bar Chart of KSR Compliance

***Key Standard Requirements (KSRs) Performance*:**

1. **Safety: 85% (e.g., PPE Matrix completed).**
2. **Quality: 78% (e.g., Q-Matrix implemented).**
3. **Maintenance Planning: 32% (critical gap).**

Figure 5: Line Chart of Digital Tool Adoption

***Trends for Key Tools*:**

- **POKA: 65% (used for CIL/Centerlining).**
- **DMO MMS: 50% (delays in operator training).**
- **PROMETHEUS: 5% (scheduled for 2025).**

Figure 6: Progress Timeline (Jan 2024 – Apr 2025)

***Key Milestones*:**

- **Oct 2024: Peak (CIL updates).**
- **Jan 2025: Drop (PROMETHEUS delays).**

Appendix B: Detailed Data Tables and Descriptive Statistics

Table 1: Task Progress by Line

Line	Avg Progress %	Tasks En cours	Tasks Terminée	Tasks Non commencée	Overdue Tasks
KRONES	86%	50	60	5	2
OPTIMA	85%	48	58	6	3
SCHMUKER	60%	60	40	10	8
MATEER BURT	44%	65	30	15	10
OCTABINE	37%	70	20	20	12

Table 2: KSR Compliance

KSR	Progress %	Key Issues

Safety	70%	Minor compliance gaps
Quality	82%	Strong adherence
Tagging	65%	Overdue tasks
CIL	55%	Resource constraints
Centerlining	60%	Inconsistent application
Changeover/Startup/Shutdown	62%	Delays in transitions
Maintenance/Planning	50%	Significant downtime risks

Appendix C: Supplementary Analysis

Graph 1: KSR vs. Digital Tool Progress

***Finding*: Process compliance (KSRs: 58%) outpaces digital adoption (DTs: 35%).**

Graph 2: Heatmap of Overdue Tasks

***Hotspots*:**

- **OCTABINE: 40% overdue (e.g., tagging delays).**
- **MATEER BURT: 35% (e.g., DMO training backlog).**

Graph 3: Task Completion Timeline

***Trend*: 70% of tasks completed by Q4 2024, but 2025 tasks lag.**

Key Insights

1. **KRONES is the most advanced line; OCTABINE requires intervention.**
2. **Maintenance Planning (KSR7) is the weakest area (32%).**
3. **PROMETHEUS is a 2025 priority (5% adoption).**

9. References

- FAO. (2023). *Dairy Market Review 2023*. www.fao.org
- Gartner. (2023). *Top Trends in Data and Analytics*. www.gartner.com
- McKinsey & Company. (2023). *Digital Transformation in Manufacturing*. www.mckinsey.com
- Microsoft. (2025). *Power BI Documentation*. docs.microsoft.com
- Nestlé. (2023). *Annual Report 2023*. www.nestle.com
- Nestlé Morocco. (2023). *Local Operations Overview*. www.nestle.ma
- Oxford Business Group. (2023). *Morocco Economic Report*. www.oxfordbusinessgroup.com
- Statista. (2024). *Global Dairy Market Outlook*. www.statista.com
- World Bank. (2023). *Morocco Economic Update*. www.worldbank.org