

AI Readiness Assessment

GlobalTech Manufacturing

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Agenda

1. Methodology Overview
2. Overall Maturity Assessment
3. Dimension Findings
4. Key Risks
5. Quick Wins
6. Strategic Roadmap
7. Recommended Next Steps

Methodology

Six dimensions assessed on a 1-5 maturity scale:

1 - Initial: Ad-hoc, reactive

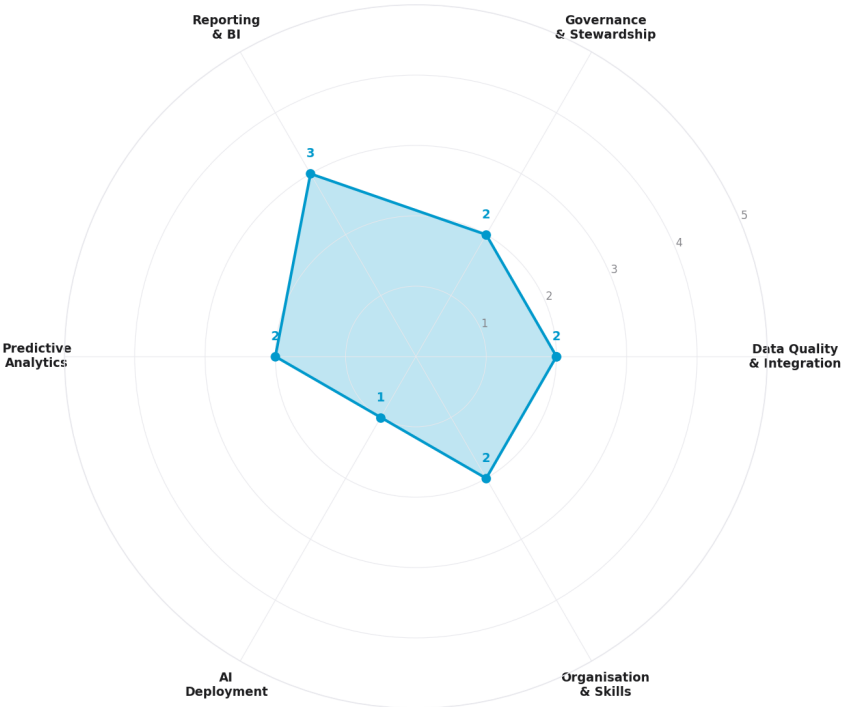
2 - Developing: Emerging processes

3 - Defined: Documented, consistent

4 - Managed: Measured, controlled

5 - Optimised: Continuous improvement

Overall Maturity Assessment



Overall Score

1.7

Developing

Building blocks emerging; focus on consistency and governance

Organisation & Skills	2
AI Deployment	1
Predictive Analytics	2
Reporting & BI	3
Data Quality & Integration	2
Governance & Stewardship	2

Organisation & Skills 2/5

Small but technically competent core team, however significantly understaffed compared to industry benchmarks. High vendor dependency (30% outsourced), recruitment challenges, and no formal career paths for data professionals. Data literacy program shows promise but limited reach.

Evidence

- 2 data scientists and 3 data engineers vs. industry benchmark of double that size
- 90 people completed data literacy training out of 400 target
- Two data engineering roles open for 6 months
- 30% of data capability currently outsourced

Risks

- Knowledge drain from key personnel turnover
- Vendor dependency creating cost and knowledge risks
- Inability to execute roadmap due to resource constraints

Recommendations

- Create formal career ladders for data roles with clear progression
- Expand data literacy program with sustained engagement mechanisms
- Develop internal capabilities to reduce vendor dependency
- Implement knowledge management system to reduce key person risk

AI Deployment 1/5

No formal AI strategy, minimal infrastructure utilization (unused GPU instances), and no AI governance framework. Limited experimentation with basic chatbot and computer vision concepts but no production AI deployments beyond traditional ML.

Evidence

- No formal AI strategy document
- Azure OpenAI chatbot built but has low usage
- Computer vision for quality inspection discussed but not started
- GPU instances available through Databricks but never used

Risks

- Regulatory non-compliance with emerging AI regulations (EU AI Act)
- Competitive disadvantage from lack of AI capabilities
- Security vulnerabilities from ungoverned AI experimentation

Recommendations

- Develop comprehensive AI strategy and roadmap
- Implement vector database for unstructured data processing
- Create responsible AI governance framework
- Establish AI experimentation sandbox with proper controls

Predictive Analytics 2/5

One production ML model (demand forecasting at 78% accuracy) demonstrates capability, but infrastructure is minimal with notebook-based development, no MLOps pipeline, and significant knowledge risk. Feature engineering is duplicated across data scientists.

Evidence

- Demand forecasting model in production with 78% accuracy
- Customer churn model built but not deployed
- No MLOps pipeline, model registry, or automated retraining
- Models run as scheduled Python scripts on EC2

Risks

- Knowledge loss if data scientists leave
- Model drift without automated retraining
- Inefficient feature development with duplication

Recommendations

- Implement MLOps pipeline with model registry and automated retraining
- Establish feature store to reduce duplication and improve consistency
- Create model documentation and handover procedures
- Deploy customer churn model to production

Reporting & BI 3/5

Strong Power BI adoption with 180 active users and 350 reports. Self-service capabilities exist with good adoption in Finance and Marketing. However, KPI inconsistencies persist and diagnostic analytics remain largely manual and ad hoc.

Evidence

- 180 active Power BI users with 350 published reports
- Strong self-service adoption in Finance and Marketing
- Executive dashboard KPIs standardized
- Gross margin calculated three different ways in departmental reports

Risks

- Decision-making conflicts from inconsistent KPI calculations
- Missed business insights from lack of automated anomaly detection
- Growing backlog of 45 requests with limited analyst capacity

Recommendations

- Standardize KPI definitions and calculations across all reports
- Implement automated anomaly detection and alerting
- Expand self-service training to Operations and HR
- Create report certification process to ensure consistency

Data Quality & Integration 2/5

While the Snowflake migration provides modern infrastructure, significant legacy issues persist with 60 undocumented ETL jobs, no automated quality monitoring, and 47% customer record duplication. Ad hoc quality checks only occur when problems surface.

Evidence

- 60 out of 200 ETL jobs in Informatica are undocumented
- Customer addresses hadn't been updated for 3 years in source system
- No automated quality gates or profiling
- 47% customer record duplication (340k records, ~180k unique)

Risks

- Regulatory compliance issues due to poor data quality
- Business decisions based on inaccurate data
- Audit failures due to inability to trace data lineage

Recommendations

- Implement automated data quality monitoring using Great Expectations (<https://greatexpectations.io>), an open-source framework for data validation and profiling
- Establish data quality SLAs with automated alerting
- Create a master data management program starting with customer entity resolution
- Document and rationalize the 60 undocumented ETL processes

Governance & Stewardship 2/5

A Data Governance Council exists but lacks executive sponsorship and consistent participation. The business glossary covers only 40% of terms and isn't maintained. Eight different customer definitions across departments indicate weak data stewardship.

Evidence

- Data Governance Council established 6 months ago with monthly meetings
- Inconsistent attendance and CEO sees governance as overhead
- Business glossary in Confluence covers 40% of critical terms
- 8 different definitions of 'customer' across business units

Risks

- Regulatory non-compliance with GDPR due to weak PII handling
- Audit failures from inability to reconstruct data lineage
- Inconsistent business metrics undermining decision-making

Recommendations

- Secure executive sponsorship for governance with clear accountability
- Implement data stewardship roles with defined responsibilities
- Expand and maintain business glossary using collaborative tools
- Establish data classification framework with automated tagging

Key Risks

Organisation & Skills: Knowledge drain from key personnel turnover

Organisation & Skills: Vendor dependency creating cost and knowledge risks

AI Deployment: Regulatory non-compliance with emerging AI regulations (EU AI Act)

AI Deployment: Competitive disadvantage from lack of AI capabilities

Predictive Analytics: Knowledge loss if data scientists leave

Predictive Analytics: Model drift without automated retraining

Reporting & BI: Decision-making conflicts from inconsistent KPI calculations

Reporting & BI: Missed business insights from lack of automated anomaly detection

Data Quality & Integration: Regulatory compliance issues due to poor data quality

Data Quality & Integration: Business decisions based on inaccurate data

Governance & Stewardship: Regulatory non-compliance with GDPR due to weak PII handling

Governance & Stewardship: Audit failures from inability to reconstruct data lineage

Quick Wins

#	Initiative	Effort	Impact	Timeline
1	Document Critical ETL Processes	Medium	High	45 days
2	Standardize Customer Definition	Low	Medium	30 days
3	Deploy Customer Churn Model	Medium	Medium	60 days
4	Implement Basic Data Quality Monitoring	Medium	High	45 days
5	Executive AI Strategy Workshop	Low	Medium	21 days

Strategic Roadmap

Short-term

Master Data Management Implementation (6 months)

Implement comprehensive MDM solution starting with customer master data, including entity resolution, golden records, and data stewardship workflows

MLOps Platform Development (4 months)

Build comprehensive MLOps platform using MLflow or similar tools, including model registry, automated testing, deployment pipelines, and monitoring

Data Lineage and Catalog Implementation (3 months)

Deploy DataHub for comprehensive data lineage tracking, metadata management, and data discovery across the organization

Medium-term

Predictive Maintenance Implementation (8 months)

Develop and deploy predictive maintenance models for manufacturing equipment using existing IoT sensor data, targeting \$700k annual savings

Advanced Analytics Center of Excellence (6 months)

Establish formal CoE with standardized processes, training programs, and innovation initiatives to scale analytics capabilities

AI-Powered Document Processing (6 months)

Implement vector database and LLM-based processing for engineering documents and quality reports, including semantic search and automated insights extraction

AWARE Framework AI Governance Implementation (4 months)

Deploy the AWARE framework for comprehensive AI agent and generative AI governance, including Actor Intent validation, Work Context analysis, Autonomous Guardrails, Real-time Risk Scoring, and Ecosystem Observability

Long-term

Computer Vision Quality Inspection (10 months)

Develop and deploy computer vision models for automated quality inspection on production lines, reducing manual inspection time and improving defect detection accuracy

Real-time Analytics Platform (8 months)

Expand Kafka-based streaming architecture to enable real-time analytics and decision-making across manufacturing and supply chain operations

Advanced Pricing Analytics (6 months)

Develop dynamic pricing models using ML to optimize pricing strategies based on market conditions, competitor analysis, and customer behavior

Recommended Next Steps

1. Review findings with leadership team
2. Prioritise and assign owners to quick wins
3. Establish governance framework for data initiatives
4. Schedule 90-day follow-up review
5. Engage Smart Associates for implementation support

Questions & Discussion

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