Snapshot report

Industry 4-0

Digital Transformation Program - Industry 4-0 (Stage 1)

Project Code
2021-1039

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Project Description

The Industry 4-0 project was undertaken by John Dee to take advantage of the recent rapid advancements in technology. Substantial progress was able to be derived from attention to enterprise architecture design and integration of available cutting-edge technologies. Project objectives were both technical and non-technical.

Project Content

The Industry 4-0 project had a range of technical and non-technical improvement objectives which would be achieved through both changes in approach, and technology.

High level objectives as specified in the research agreement were narrow and focused.

Realise and implement a JDW industry 4-0 vision and strategy via:

- New Systems implementation and integration
- Modification to existing Systems
- Training of all users (internal and external)
- Overlay of JDW's evolving Innovation Management System, which the Industry 4-0 provides valuable insights into, to evaluate new ideas and demonstrate the benefits/outcomes of any innovation ideas implemented.
- Final reports (confidential and public) demonstrating the system installed (design and supply), the typical data developed, insights from the data, and the Innovation Management System overlay.

Project Outcome

While the starting point was ‘functional’, opportunities existed for maximising productivity and efficiency. There were also opportunities to make John Dee more agile and able to act on innovation opportunities quickly, and in a co-ordinated way. At its core, the Industry 4-0 project involved re-architecting the entire technology system using best practice principles to achieve business outcomes. If there is a single critical success factor, it is internal and external customer focus. This is both focused on immediate issues and the ability to enhance service delivery in the future. Gains have been made across:

- Enterprise Data Security
- Connectivity
- Recoverability and Resistance to Cyber Threat
- System Resilience and Recoverability
- Interoperability and Interface Compatibility
- Platform Consistency
- Data Process Automation
- Data Integrity
- IT and Industrial Control Integration
- Insights and Business Intelligence
- Data Availability for Contract Processing Partners
- Integration with Contract Processing Partners
- Maintainability and Consistency
- Enterprise Standard Operational Processes and Documentation

Benefit for Industry

John Dee has demonstrated that processors can execute bold IT transformations and gain huge benefits. Significant time was spent documenting the insights gained from the project in the full report. Given the small IT teams that are generally at processors, it is hoped that the processes, frameworks outlined, and lessons learned will be of significant benefit to the industry as a whole.

The Industry 4-0 project involved everyone across the plant, either directly or indirectly. Every electronic production process was changed, and it was necessary to change many physical processes due to the new systems. The typically very small knowledge worker team size is a major challenge in the processing industry overall. With high reliance and increasing focus on technology and data, a methodical project approach is key to success.

Some key recommendations are:

- Use a business case approach to project investment decisions which include less obvious things like
    - downtime avoided (across the plant)
    - true costs of grossed up internal wages
    - other internal costs;
- Invest in people and training;
- Build a realistic test environment and keep it after go-live so all upgrades can be pre-tested;
- Scale up operational and program / project management processes;
- Invest in the best technology that is available and affordable based on realistic business cases;
- Focus on risk management to find the largest gains for prioritisation;
- Implement appropriate methodologies for IT operations management such as ITIL concepts.
- Develop and implement a right-sized project management methodology. (PMBOK or Prince2 for example)
- Employ specialist business analysts for requirements gathering and specifications.

Having goals linked not only to elimination of downtime using technology, but to leveraging the system for actionable insights is key. Considerations for future research and development could include:

- Developing recommendations for IT team structures for the processing industry;
- Developing reference frameworks for design of IT systems;
- Developing recommended pathways for IT education in meat processing;
- Developing project methodology and business case development material, and offering training;
- Developing an Industry 4-0 / Digital Transformation Roadmap for processors.

John Dee has totally changed its technology architecture and made large gains as a result. This has allowed improved service to customer, improved efficiency and improved agility. There are many improvements possible in the future. The path for other processors to advance on this journey rapidly is possible. It is intended that this project might provide some guidance on approach on key considerations for such an undertaking.

Useful resources

Insert links to relevant online materials.

Type	Author	Link	Notes
ITIL Framework	Axelos	https://www.axelos.com/certifications/itil-service-management	IT Operations Management Framework ITIL, Prince2, other training and resources
Project Templates	Tasmanian Government	https://www.dpac.tas.gov.au/divisions/digital_strategy_and_services/projects/archive_-_project_templates	Prince2 Project Templates
Change Management	Tasmanian Government	https://www.dpac.tas.gov.au/divisions/ssmo/change_management	Change Management Templates
Stage Gate	TC Gen	https://www.tcgen.com/product-development/stage-gate-product-development/	Product management / development framework
3 Horizons	McKinsey	https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/enduring-ideas-the-three-horizons-of-growth#	3 Horizons growth model