



## Re-envision ERPs with Industry 4.0 Solutions

### The Problem with current ERP approaches

#### Focus on Incremental Optimisation

Existing Enterprises and ERP Vendors have focused on plugging new technology into old business models with the hope of enhancing those models (mostly just filling gaps) with smarter tools and more data, viz. taking a perceived 'Optimisation' approach to current models. Making old models work better becomes just a 'lock in' to already sub-optimal outcomes; especially when new technologies are enabling all-new models that render the old ones obsolete – in fact, so obsolete that the new models become a complete paradigm shift with an Order-of-magnitude ROI.

#### Sub-Optimal Outcomes

The evolution of outcomes from the ERP world has been extremely slow over the past two decades; in that

- Outcomes tend to offer very little ROI for the investment required
- ERP Transformations can drag on for years with NO measurable impact or capability to make valid assessments of value
- Industry and stakeholder expectations are dynamic and changing rapidly
- Regulatory Compliance and Process Safety are adding to the complexity
- There has been a lack of new innovative capability from ERP Vendors as they continue to build monolithic structures that are costly to maintain
- There is acceptance that the ERP design focus is still on feature / function and activity / task, instead of business process outcomes.

**“Continuing to put lipstick on a pig will FAIL - This problem needs to be re-envisioned NOW before it becomes a Lock-in !!”**

### The Impact of Complex Systems & Data

Industry 4.0 Solutions require robust data integrity, eg. the blending of diverse time and series data for more complete outcomes driven by prognostics rather than a single focus predictive analytic. Modern business problems and related assumptions underlie the complexity of systems and their data requirements; which if not provided for, shall result in mischaracterisation of the causes and consequences of large-scale or multi-scale analysis and behaviours that are part and parcel of a business framework in today's business environment.

Old 'feature / function' systems can no longer provide the capability, nor the science, nor the scale to resolve how internal and external business components now relate to each other. We also need to more accurately measure data quality in order to provide and protect data-driven decision making.

Hence, trade-offs in efficiency or adaptability or required data structures shall now be difficult to justify!!

**“It is sufficed to say, we need to walk straight by 'optimisation' of existing models and build 'extended' capability in order to meet today's business requirements.”**

### Environment Integration & Interoperability

There is no ideal scale at which a system should possess extended capability and complexity; rather, the most effective systems are those that, at each scale, match the capability and complexity required of their environments.

#### What we do

Firstly, we optimise Customer Business Processes by capturing and applying business rules, adding new capabilities and automation

Then we extend Customer ROI by using Agile Development, Agile Deployment, Agile Adoption, and Persona-based data driven decisions

#### Our Business Process Improvement (BPI) focus

- Supply Chain
- Asset Management
- People Management
- Financial Management
- Persona-based User Interfaces
- Work Force Mobility
- Google-like Searches
- Data Driven Decision Making
- Machine Learning
- Predictive Statistics
- Data Validation and Visualisation
- Process Optimisation through automation and enhanced digitisation

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The Next Generation business systems need to encompass levels of connectivity never before experienced; in that large, complex integration efforts provided by current off-the-shelf ESB platforms need to also become process-interoperable in order to maximise the outcomes inherent with Industry 4.0 solutions.

The business integration and interoperability landscape will need to look outside existing processes, procedures, activities, and work practices and take more cognisance of

**Technology and Innovation with**

- Problem solving capability
- Reliable outcomes
- Customer collaboration
- Effective and Ethical approaches

- Understanding our Customer’s total business environment (Internal & external)
- Staying abreast of industry and regulatory influences and impacts
- Engaging and working with the Customer’s scarce resources and helping them on this new journey
- Identifying where ‘Quick Wins’ can be gained and how to ‘Extend’ business utility in a manageable manner over time without impacting core business
- Provide technology (eg. IoT and methods) to support Customer’s focus on the complexities of their core business.


**About the Author**

Greg Towne is a Co-Founder of Diriger with 30+ years of experience implementing ERP’s and BPI Initiatives in Mining, Utilities, Energy & Defence. He is PMP accredited and was instrumental in developing an ISO & PMBOK ERP specific implementation methodology now used by organisations world-wide.

**Diriger’s Approach to Industry 4.0**

Following many years of developing, implementing and improving ERP environments across major asset intensive industries in various corners of the globe, we have been able to shape the next generation industry solutions via an extension of McKinsey’s **Data Insights Value Chain** concept. We have coupled this with our own **Digital Intelligence Ecosystem** and business to business integration platform.

Capturing value from Data requires excellence in all components of the **Insights Value Chain**

Technical Foundations				Business Foundation		Value Captured				
Data	X	Analytics	X	IT	X		People	X	Process	=
New Data Sources		Descriptive Statistics		Cloud Sourcing		Cultural Change		Adaptive Business Processes		<p><b>The Insights Value Chain is multiplicative, viz. you are only as good as the weakest link in the chain</b></p>  <p><b>Providing Direction Leading</b></p>
Orchestration of Data		Classical Predictive Statistics		Edge Computing		Data-Driven Decision Making		Automated Business Processes		
Unstructured Data		Machine Learning		Analytical Program Language		Role Profiles		Data & Analytics Governance		
Privacy & Legal Considerations		Cognitive Modelling		Data Visualisation		Organisational Structure		Cross-functionality		
Data Security		Optimisation		In-memory Analytics		Analytics Talent (Skills)		Agile Processes		
Data Validation		Simulation		IT Stack		Agile Adoption		Ecosystem Management		

Adapted from McKinsey & Company 2018 "The Organisation of the future combines technologies that are available today"

**Diriger** Borrowed from Latin *dirigō*, *dirigere* ('to direct'), simplified into a first conjugation French verb

