Adaptation to the Speed Changing Requirement

“The Ability to Absorb, Leverage Change is the New Norm!”
Tim Sowell
Digital Portfolio Strategy Software
AVEVA PLC

-Schneider Electric Edison Master (Fellow)

Change is all Around Us.
• Share as I need
• No Receipts
• No Parking
• But Freedom

Brisbane South Bank to Queen St office 8 am
20 minutes, with coffee break

Copenhagen Train station to Office
20 minutes

Macquarie Park
Sydney International

LAX
John Wayne Airport

2 hrs
2 hrs Via MS Store

2 hrs
2 hrs
Operational Reality

- Gen Y 42% workforce
- 1 in 3 project vs. career
- 2.4 year tenure
- 1 in 4 work virtually

Digitization Reality

- 80% of processes reinvented or eliminated by...
- 85% of consumer relationships will be...
- 47% of revenues will be influenced by...

...DIGITAL in 2020

Source: Gartner, Forrester
Multi-party inventory management: Retail industry example

Reduce Costs

1975 - 1985
 Launch of RetailLink for vendor managed inventory

1992 - 1996
 RetailLink moves to Internet

2004
 Push for adoption of RFID

2007
 Launch of Site-to-Store

2017
 2-Day Shipping

Improve Performance

Two companies equally committed to data-driven (digital) transformation

One is an enterprise-centric model
The other is a network-centric model

1994
 Launch with online bookstore

1999
 3rd Party seller marketplace

2005
 Prime 2-day shipping

2018
 $1 Trillion market cap
The market landscape

**ENVIRONMENT**
- Demand – Supply Balance
- Consolidation and New Competition
- Environment, Health, Safety Regulations
- Generation Shift
- Ease of Information Access

**IMPERATIVES**
- Increasing New Product Introduction
- Shortening Product Runs
- Acceleration of Change
- Asset reliability and availability
- Operations visibility and decision support
- Dynamic Workplace
- Dynamic Workforce
- Cybersecurity

**TRENDS/OPPORTUNITIES**
- Cloud
- Industrial IOT
- AI
- Augmented and Virtual Reality

"What scares is me is that the rate of change will never be slower than it is today"

Voice of Customer Quote

The Ability to Absorb, Leverage Change is the New Norm!
Change in Manufacturing

- Increase Manufacturing Agility
- Sustainable Manufacturing
- Raise Customer Confidence
- Improve Operational Performance
- Velocity
- Visibility
- Variety

- R&D: more variety
- Products: more items!
- Production: more choices!
- Assets: more options
- Procurement: more items!
- Design: more choices!
Manufacturer’s get the “Digital” memo

“Digital is changing not just how companies operate but also our relationships with partners, suppliers and the people who buy our products... We are creating a digital-first culture.”

Paul Bulcke, CEO Nestlé

“I felt like Rip Van Winkle. The company went to sleep and the world changed... We knew we needed to disrupt ourselves,”

Denise Morrison, CEO Campbell’s Soup

“The world we live in is facing profound social and environmental challenges, as we seek to sustainably feed a burgeoning global population...leveraging the new digital world in logistics and workplace.”

Michael H. McCain, CEO Maple Leaf Foods

“...analysts have estimated between 10 and 25 per cent could be cut from the cost of trials if digital technology were used to carry them out more efficiently.

Dr Vas Narasimhan, CEO Designate Novartis

“The digital revolution is steering the food industry to critical re-evaluate their operating models and efficiency.”

Jari Latvanen, CEO HKScan
70% of organizations will fail to achieve expected business outcomes.

Only 8% of executives believe they have achieved digital transformation.

9/10 organizations will fail to achieve expected business outcomes.

84% of companies fail at digital transformation.

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Digital Transformation Opportunity

Digital

Electronic Capture/ Digital Engagement
IOT Cost Effective Capture

Run

Context
Experience
Assimilation

Judgement

WISDOM
KNOWLEDGE
INFORMATION
DATA

CONNECT & COLLECT

Transformation of Data into Wisdom

Improve

Minimize “Wasted “ Work
Outward Thinking
Value Creation
Customer Centric

Digital Transformation is a transformation of work, enabled by “digitization”

Life Is On

Schneider Electric

AVEVA
A World in Constant Change

Imperative

Dynamic Workplace
Dynamic Workforce

Mindset

Choice

Tenure less than 2.4 years

Technology

Cloud

Opportunity

Self-Service Learning

Distribution of unscheduled Shutdowns and Slowdowns

42% People
22% Process
36% Equipment

What is your biggest cause of quality issues?

51% 
Workers not adhering to designed process

33% 
Inexperience of new line workers

9% 
Insufficient process time

7% 
Inability to tie quality records to specific products
Transforming Work and Work Processes

- Change from people to teams
- Share Knowledge from system, or experts
- Take out delay in decisions
- Gain consistency of execution/ across different experience
A World in Constant Change

Imperative

Increasing New Product Introduction
Shortening Product Runs

Increase NPI
Increased Competition

Maintain Velocity
While

Technology

Cloud

Industrial IOT

Digital Twin

Artificial Intelligence

Augmented and Virtual Reality

Opportunity

Team Collaboration
Positive Release over supply chain

Enabling Customer Engagement with Product
“As Made” vs “As Specified”
Production Quality
Operational Data
360 View across the Twin

Predictive Condition
Prescriptive Knowledge

Change Over Set Guidance
Transforming manufacturing operations to improve profitability and yield while increasing flexibility

Smart Manufacturing

**Process Automation**
Innovative Ethernet based control platform for more performance, transparency and flexibility

**Smart Machines & Robotic**
Packaging automation offer and know-how for outstanding line performance

**Simulation & Augmented Reality**
Helping you to better understand your complex process and take efficiency to the next level

**HMI and Data Integration**
IoT ready system platform for better collaboration and reduced TCO

**Industrial Information Management**
Transformation of your data into actionable knowledge and wisdom

**Manufacturing Operation Management**
Multi-site IT platform for best in class operation, performance and quality

**Assets Performance Management**
The most comprehensive solution for a maximum economic return of your assets

**Process & Machine of the future**
Innovating for the optimization of your most important process and machines
Help food safety compliance and traceability to preserve brand equity and shareholder value.

Smart Food Safety

- **Traceability**
  Track your entire operations to reduce company exposure in case of quality issue

- **Mislabeling Elimination & Serialization**
  Provide consumers with the right information and protect your brands from counterfeiting

- **Food Defense**
  Protect your facilities from any unauthorized access.

- **Regulation Compliance**
  Implement systems natively supporting Food Safety regulation compliance

- **Raw Materials**
- **Products**
Smart Supply Chain

Give full visibility into the value chain, and reduce sourcing and logistics costs.

Farmers Information
Help farmers and agribusiness improve profitability and reduce risks

Energy & Commodities Sourcing
Balancing cost, risk and rewards from Energy and Raw Materials purchase and trading

Distribution Assets Management
Improve utilization and impact of cooling assets in sales outlets

Irrigation & Access to energy
Help access and preserve energy and water needed for field operations

Supply Chain Optimization
Help operational and strategic decisions for your supply chain efficiency and profitability
Understand the Future to Machine
Understand the Future to Product Condition
Machine Learn Process and Improve
Autonomous, Self-Guided Remediation
Getting in the Driver’s Seat

- Commercial and Technical Flexibility
- New Markets, New Applications
- Knowledge, Understanding
- Smarter, Automated Decision Making
- Modernizing the Digital Workforce
- Complete Digital Value Chain
- Security, Reliability, Regulatory Compliance
Event Based Asset Strategies
Predictive APM requires “Pit-Stop” approach to Execute Tasks within P-F Interval of the Alert

Predictive Asset Strategies trigger unforeseen EVENT BASED Work Orders.

Time & Usage based Strategies (“Classic”) schedule anticipated PLAN BASED Work Orders.

Event Based Work Orders require Pit-Stop Approach
- Demands careful Preparation
- Requires Agility and Discipline
- High level of Execution Maturity in Processes & Organization
- Requires advanced Tools for Prioritization, Scheduling & Tracking of Work Orders
Food company improved reliability and quality, and avoided unplanned cost with predictive analytics

- **CHALLENGE**
  This global food manufacturer was looking to improve production reliability for high-value baked goods. They wanted to provide consistency of product quality related to variability. In addition, wanted to ensure food safety, while delivering to schedule and at cost.

- **THE SOLUTION**
  - Implemented Predictive Asset Analytics to monitor multiple lines/areas/equipment as an extension to existing systems and sources, monitoring multiple points with 20+ behavior models deployed.
  
- **RESULT: PREVENTED PRODUCTION LOSSES**
  
  2 Catches in a Quarter
  
  Model detected anomalies in dough laminator; conveyor drawing high amps vs. model
  
  Model detected issues on oven oxidizer; differential pressure outside norm
Kwik Trip Improved Quality and Traceability

LOCATION
United States

SOLUTION
Kwik Trip a large Wisconsin based convenience store retailer, operating 650 stores and serving 7 million guest each week. Kwik Trip produce 80% of the product they sell, with a focus on freshness and quality, in several highly automated production facilities

• Bakeries – Bread/Bun, Sweets
• Dairy – Milk, Ice Cream, Isotonics
• Commissary – Ready to eat

AVEVA supports Kwik Trip with a fully mobile, model driven MES solution for workforce enablement, quality, traceability and regulator compliance

 Rolled out in parallel with SAP deployment

Fully mobile solution to enable workforce

FSMA support. Genealogy lookup and quality release from 2.5 hours to 10 minutes
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