Business Process Management 4.0:

IIESE Performance Excellence Webinar Series Director

D. Scott Sink
Adjunct Professor, ISE, Va Tech

Our Presenter and Panelists today:

Jared Frederici, Sr. Consultant, The Poirier Group
Eduardo Toledo, VP Business Excellence, Flex

15 March 2022
Purpose and Agenda

**PURPOSE:**

*To share Perspectives and Points of View on the evolution of Industry 4.0 and more specifically what’s called Business Process Management 4.0.*

11:00 Scott to tee-up the Webinar

What is Business Process Management? [Quick Recap of our BPM 4.0 webinar back in Nov 2021](#)

11:07 Jared to provide updated overview on BPM 4.0

11:17 Eduardo to provide a quick overview of Flex Business Excellence

11:27 Scott to facilitate dialogue with Jared and Eduardo

11:55 Scott Close out and Adjourn
Business Process Management 4.0: Fundamental Questions

• What do you mean when you say Business Process Management? (Scott)

• What does this 4.0 thing mean? (Jared)

• What’s the Vision or End Game for BPM 4.0, Eduardo you call it Business Excellence? What are you doing at Flex?

• How would one create a practical migration strategy and plan to address capability and performance gaps?

• How can IISE and ISE help with this significant piece of work?
IISE Performance Excellence Track

Annual Conference & Expo | May 21-24, 2022 | Hyatt Regency Seattle


Performance Excellence topics include ...

- Accelerating Benefits Realization
- Best Practice Case Studies
- Career and Leadership Development
- Change Leadership and Management
- Industry and Service Systems 4.0
- Integrated Lean and Six Sigma
- Operational Analytics
- Operational and Business Process Excellence
- Personal and Professional Mastery

Accelerating Benefits Realization
Dive into agile and other methodologies that speed up operational results and bottom line impact

- Implementation Sciences and Benefits Realization Management
- Operational Analytics: How it Supports Business Cases, Evaluation Studies, Benefits Realization Confirmation
- Disruptive Innovation in Distribution: From Weeks to Days to Hours
- Agile Methodology to Enable Rapid Process Innovation and Improvement
- The Agile Scrum Process for Process and Product Improvement
- Rapid (AGILE) Deployment and Execution of Integrated Systems Engineering Principles and Methods in Times of Major Disruption
ISE’s Create Value by Integrating People, Strategy, Process and Technology

This integration, by definition, requires an understanding of Business Process Management.

ISE’s are well suited (trained) to help manage this dynamic and often complex integration.

Changing the way we exchange value with our employees and manage our culture.

Enhancing the way you think and plan

Changing the way we exchange value with our employees and manage our culture.

Performance Excellence

Leveraging hyper-connectivity and the full power of IT Enablement

What we do and how we do what we do.
Seminal Article that shared a vision for the direction that ISE has been moving.
20’s style Operational Excellence Programs are a product of well over 100 years of ‘design and development’

A BRIEF -HOWEVER COMPLEX- HISTORY OF LEAN
Several branches & trends influence its evolution

Operational Excellence
Evolution began with the founding of Industrial Engineering circa turn of 20th Century

Branches evolved in Lean and TQM then into Integrated LeanSigma and now into Integrated Systems Engineering:

Enterprise Wide Operational Excellence Programs
The ‘nature’ of organizational systems is evolving.....

The Evolution of Organizations

From Organizations as MACHINE
INDUSTRY 1.0 - 3.0
(Taylorism, Fordism)

To Organizations as “ORGANISM”
INDUSTRY 4.0
(Convergence, Agile)

To Organizations as RELATIONSHIPS
INDUSTRY 5.0
(Relationshipism, People-Centered Organization System)

Much of this evolution is ‘driven’ by the ‘10 Laws of Technology’ (hyperconnectivity) that are altering how we work and relate and how value is created...
Quality has been the focus of much Performance Improvement thought and effort but BPM 4.0 is much, much broader and pervasive/ubiquitous.

Here is an example of the Integrated Quality Management System.

Think about this beyond just Quality:

- Effectiveness
- Efficiency
- Productivity
- Quality of Work Life
- Innovation/Learning
- Profitability
- Sustainability
The focus today is on how IT Enablement is creating huge new opportunities for Business Process Reengineering—Redesign.
The New Industrial and Systems Engineering spans the full spectrum of Business Process Management Endeavors.
What is a Business Process (Wiki)

- A **business process**, **business method** or **business function** is a collection of related, structured activities or **tasks** by people or equipment in which a specific sequence produces a service or product (serves a particular business goal) for a particular customer or customers. Business processes occur at all organizational levels and may or may not be visible to the customers.[1][2][3] A business process may often be visualized (modeled) as a **flowchart** of a sequence of activities with interleaving decision points or as a process matrix of a sequence of activities with relevance rules based on data in the process.[2][3][4][5] The benefits of using business processes include improved customer satisfaction and improved agility for reacting to rapid market change.[1][2] Process-oriented organizations break down the barriers of structural departments and try to avoid **functional silos**.[6]
Perhaps the highest level would be an End2End Value Stream Map for the Enterprise.
The Business Process Groups from the Enterprise Value Map:

- Business Strategy and Management
- Customer Strategy, Relationship & Interactions
- Product Strategy, Development and Make/Buy
- Human Resource Strategy and Management
- IT Strategy and Management
- Other Shared Support Enterprise services
This is why people do Business Process Management

- Reduced Risks
- Enhanced Process Consistency
- Greater Brand Protection
- Product Safety
- Health and Safety
- Improved Predictability
Typical ERP BPM “Modules”

- **Sales**
  - Implement functions of order placement, order scheduling, shipping and invoicing.
- **Procurement (SRM)**
  - Maximise cost savings with support for the end-to-end procurement and logistics processes.
- **Production (PLM)**
  - Helps in planning and optimising the manufacturing capacity and material resources. It is evolved from the MRP.
- **Distribution (SCM)**
  - Control warehouse processes and manage movements in the warehouse and respond faster to challenges and changes in supply and demand.
- **Corporate performance and governance**
  - Aims to streamline and gain greater control of the corporate services.
- **Customer services (CRM)**
  - Capture and maintain customer relationships, facilitate the use of customer experiences and evaluate the knowledge management.
- **Business Intelligence**
  - Analyse data and convert to information.
  - Efficiently and sustainably manage the entire asset lifecycle, improve asset usage and cut costs with powerful analytics.
  - Focus on external strategies.
- **Enterprise asset management**
  - and others...
- **Human Resource**
  - Maintain a complete employee database and to optimally utilise of all employees.
- **Accounting**
  - Automate any financial operations while ensuring regulatory compliance and gaining real-time insight into overall performance.

**ERP II modules**
Business Process Management 4.0: Fundamental Questions

• What do you mean when you say Business Process Management?

• What is this 4.0 concept?

• What’s the Vision or End Game for BPM 4.0, Eduardo you call it Business Excellence?

• How would one create a practical migration strategy and plan to address capability and performance gaps?

• How can IISE and ISE help with this significant piece of work?
Where the Industry is Going (Already)

Automated ecosystems of “event-driven process mining”, triggering workflow and leveraging AI & RPA is here.

The day of static, business process maps are going extinct in organizations.
76% of banks with assets >$100B have implemented AI-based strategies.

These are organization-wide ecosystems, NOT point solutions.

Where the Industry is Going (Already)

- 76% of banks with assets >$100B have implemented AI-based strategies.
- These are organization-wide ecosystems, NOT point solutions.

**KEY CAPABILITIES**

- Get started within a few clicks with pre-built connectors and Out-Of-The-Box analysis templates for the most common use cases.
- Gain business insights immediately with instant data extraction.
- Use dynamic visualizations of your client’s process with powerful metadata drill down functionalities to quickly generate valuable insights.

**INTELLIGENT BUSINESS CLOUD**

- Intelligent Business Appstore
  - Process Discovery
  - Process Analytics
  - Action Engine
- Process Mining Technology
- Event Collection

**Automation**
Where the Industry is Going (Already)

Typical BPM journey from inception
Where the Industry is Going (Already)

EXTERNAL AUDIT USE CASE

GENERAL
- All cases covered without sampling
- Easy detection of End-to-End process
- One-time scan and extraction of data
- Objective information for 100% fact based discussions
- Show all financial flows within the regarding business

SPECIFIC
- Drill down to specific process steps
- Pre-defined analysis helps to increase audit efficiency
- In-depth work with endless options to filter
- Use your own digital solutions

BenEFITS

Value-Add of Process Mining
50% increase of win rate with Celonis Conformance Check
Average time of data extraction 1 day

What can it look like?
Leveraging a variant of CMMI taxonomy, we can assess the maturity of an organization's BPM competency among specific attributes. There is a high correlation between mature organizations and business longevity. TPG sees an average maturity index of **2.4 / 6** across its past ~300 projects.

1. **Ad Hoc, Habit**
   - Controlled chaos. Things get done; we don't really know how. Process is art. Process isn't documented.

2. **Defined, understood**
   - Processes are written down. People thought through current state. Some is outdated and processes are broken. A few digital workflows may exist but is sparse.

3. **Cont. Imp.**
   - Future-state has been designed and somewhat implemented. Processes are fairly fresh, and we are fixing many as an organizational competency. Many workflows are virtual, some are automated.

4. **BPI--Managed**
   - A mature competency exists to both document new processes and fix broken processes dynamically. Processes are documented, many virtually with dynamic workflows and the system is governed by people and technology.

5. **Reengineered, increasing automation**
   - Most process is digital, via a "digital twin". Process mining exists and process data is constantly analyzed. All or most of those processes that can be automated, are, leveraging RPA, AI and other advanced tools. Governance is rigorous, tight and controlled.

6. **Autonomous**
   - Algorithmic-based programs analyze dynamic process data that has been mined and automatically both predict and mitigate process breakdowns autonomously (Autonomous Business Process – ABP). Human intervention is only required if the business rules call for it, or if a decision is needed a human can make better than a machine.

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**BPM 4.0**

**BPM 5.0**
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Our foundational strength

- **Revenue**: $24 billion+
- **2021 Rankings**: Fortune Global 500 & World’s Most Admired Company
- **Employees**: 160 thousand+
- **Designers and Engineers**: 3 thousand~
- **Customers**: 1 thousand
- **Suppliers**: 16 thousand
- **Global Operations**: 100+ facilities
- **Experience in Sustainability**: Nearly 20 years
Global Business Excellence

Lean Six Sigma Deployment
Agile Continuous Improvement
Enables a repeatable and reliable business system

Key enabler to robustly drive consistent and discipline improvements with people engagement
Global Business Excellence Objectives

**People & Culture**

- **People is the most valuable asset in the company, which valuates day-by-day**
  - People empowerment, engagement, development & recognition
  - DNA culture of Continuous Improvement that is always seeking a better way, moves fast and does the right thing
  - It’s ALL about People

**Business Enabler**

- **Drive Agile Continuous Improvement aligned to Flex Forward strategy to make Lean Six Sigma a Way of Life**
  - People training and deployment
  - Kaizen to Business Needs (KTBN) Workshops, Small Group Activities (SGA), Six Sigma Workshops, DFFS, Webinars & Best Practices sharing
  - Lean & Six Sigma Certification

**Effectiveness**

- **Enable Customer Value Stream teams to...**
  - Enhance Customer experience and a valuable partner to improve the world
  - Drive excellence in Design, Operations, Supply Chain & Office functions
  - Contribute savings to bottom line

**Increase Competitiveness**

- Performance Tracking Tool for Sustainable Deployment

**Agile Continuous Improvement**

- Drive Agile Continuous Improvement aligned to Flex Forward strategy to make Lean Six Sigma a Way of Life
  - People training and deployment
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  - Lean & Six Sigma Certification
Continuous Improvement Methodology

**Flex Lean Enterprise**

- **Six Sigma Capabilities**
  - Deploy Systematic Process Improvement Using DMAIC / DFSS Methodology
  - Eliminating Variation and Improve Quality
  - Kaizen Goals: Double the Good and Halve the Bad with Triple the Speed and Sustain!
    - Productivity Improvement $\times 2$
    - Inventory Reduction $\times 1/2$
    - Lead Time Reduction $\times 1/2$
    - Scrap Elimination $\times 1/10^{th}$
    - Defects Elimination $\times 1/10^{th}$

**DFSS (Design for Six Sigma)**

- **Deployment Approach**
  - Establish Model Lines
  - Results
  - Best Practice Sharing
  - Deploy a Continuous Improvement Culture
    - High impact projects & prescriptive benchmarking linked to customer and business needs

- **Measurement & Sustenance**
  - JIDOKA: Stop & Abnormalities
  - Kanban: Six Sigma
  - SMED: Changeover
  - Supermarket
  - 5s Value Stream Map
  - Heijunka Level Loading Sequencing

Lean + Six Sigma = Speed + Accuracy
Flex Lean Six Sigma Journey

Establish an Agile Continuous Improvement Management System that enables Flex Forward and ensures Flex is a valuable partner to improve the world.

Lean 2.0
- Training
- Leadership
- TAKT Time
- Single Piece Flow
- Pull Production

Lean Office
- Streamline office processes
- Level Loading
- Sequencing
- Poka Yoke
- Stop @ Abnormalities

Lean Supply Chain
- End-to-end supply chain processes
- Heijunka
- Level Loading
- Sequencing
- KTBN with Finance

Just-in-Time (JIT)
- TAKT Time
- Single Piece Flow
- Pull Production

Lean Six Sigma 4.0
- Value Stream Map
- 5S + 1
- Quick Changeover

Agile CI
- Change Management
- Supermarket
- Agility

Lean Six Sigma 4.0
- Digitization
- Automation

Kaizen to Business Needs
- End-to-end business process
- Customer / Supplier Engagement

Lean 2.0
- End-to-end business process
- Customer / Supplier Engagement

Commit to Deliver
- Quality
- Cost
- Delivery
- Responsiveness
- Productivity
- Visible Difference
- Efficiency
- Speed
- Assets Velocity
- People Empowerment
- Lead Time Reduction
- Pristine Ramp, Transfer & Startups
- Environment (CSER)
- Loss Prevention
- System Migration

Setting Foundation
- Training
- Leadership
- Supermarket
- 5S + 1
- Quick Changeover

Flex Lean Six Sigma Journey

Lean Office
- Streamline office processes
- Level Loading
- Sequencing
- Poka Yoke
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Q&A with Jared and Eduardo

- Eduardo, you and I were discussing the World Economic Forum and the Lighthouse Network, can you tell us briefly about this in context of BPM 4.0?

- Jared, in our last webinar in this BPM 4.0 series from IISE you walked us through strategies and tools to migrate up the BPM Maturity Levels, any high level thoughts on the migration strategy development a firm might use to get going with this a little more systematically?

- Eduardo, you own, are responsible for a lot, have a lot on your plate. How do you juggle all the balls that are involved in Enterprise Transformation and Operational Excellence?

- What’s your vision for the next 5 years in this domain?
Examples of trends in Industry 4.0

- Future of Manufacturing | Global Lighthouse Network – YouTube

  https://www.weforum.org/events/the-davos-agenda-2022


  https://www.weforum.org/agenda/2022/01/8-innovations-advanced-manufacturing-support-esg-reporting/
The Global Lighthouse Network includes 90 sites as of September 27, 2021.

Since publication of Reimagining operations for growth in March 2021, the network’s expert panel has added 21 new lighthouses and 3 designated sustainability lighthouses. The network consists of 90 lighthouses identified across different industry sectors and includes the newest designation of sustainability lighthouse. In this white paper the latest achievements of the network are explored, with a focus on sustainability.

- **a** Ericsson
  Lewisville, Texas, US
- **b** Schneider Electric
  Lexington, Kentucky, US
- **c** Henkel
  Düsseldorf, Germany
- **1** Henkel
  Toluca, Mexico
- **2** Prolabs
  Plymouth, Minnesota, US
- **3** Johnson & Johnson
  DePuy Synthes
  Bridgewater, New Jersey, US
- **4** Johnson & Johnson
  Vision Care
  London, UK
- **5** De’Longhi Group
  Treviso, Italy
- **6** Flex
  Althofen, Austria
- **7** Arçelik
  Esraşehir, Turkey
- **8** Saudi Aramco
  Abqaiq, Saudi Arabia
- **9** Western Digital
  Prachinburi, Thailand
- **10** Western Digital
  Penang, Malaysia
- **11** Innotux
  Kaohsiung, Taiwan, China
- **12** CITIC Dicastal
  Qinhuangdao, China
- **13** SANY
  Beijing, China
- **14** AUO
  Taichung, Taiwan, China
- **15** Foxconn
  Wuhan, China
- **16** CATL
  Ninge, China
- **17** Foxconn
  Zhengzhou, China
- **18** Haier
  Tianjin, China
- **19** LS ELECTRIC
  Cheongju, South Korea
- **20** Schneider Electric
  Wuxi, China
- **21** Unilever
  Taicang, China

Note: For details of previously selected lighthouses, see Reimagining Operations for Growth, World Economic Forum, March 2021.
<table>
<thead>
<tr>
<th>What has changed in the world?</th>
<th>What are the shifts stemming from these challenges?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand uncertainty and disruptions are challenging planning systems</td>
<td>Agility and customer centricity</td>
</tr>
<tr>
<td>National security interests, trade barriers and logistics disruption will demand alternatives to globalized supply chains</td>
<td>Supply chain resilience</td>
</tr>
<tr>
<td>Disruption of global manufacturing and supply chains are challenging manufacturers</td>
<td></td>
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<tr>
<td>Forced transition to remote management and digital collaboration</td>
<td></td>
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<tr>
<td>Physical distancing regulations for safe return to work are forcing manufactures to reconfigure their manufacturing flows</td>
<td>Speed and productivity</td>
</tr>
<tr>
<td>Displacement of large parts of the workforce, unbalanced decline and growth between sectors</td>
<td></td>
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<tr>
<td>Economic recession necessitates rapid operational and capital cost reduction</td>
<td></td>
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<tr>
<td>Increased global concern for environmental impact of human activities</td>
<td>Eco-efficiency</td>
</tr>
</tbody>
</table>
https://www.weforum.org/agenda/2022/01/8-innovations-advanced-manufacturing-support-esg-reporting/
### KPIs improvements

<table>
<thead>
<tr>
<th>KPIs improvements</th>
<th>Impact range observed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productivity</strong></td>
<td></td>
</tr>
<tr>
<td>Factory output increase</td>
<td>![Impact Scale] 4-200%</td>
</tr>
<tr>
<td>Productivity increase</td>
<td>![Impact Scale] 5-160%</td>
</tr>
<tr>
<td>OEE increase</td>
<td>![Impact Scale] 3-90%</td>
</tr>
<tr>
<td>Product cost reduction</td>
<td>![Impact Scale] 5-40%</td>
</tr>
<tr>
<td>Operating cost reduction</td>
<td>![Impact Scale] 2-45%</td>
</tr>
<tr>
<td>Quality cost reduction</td>
<td>![Impact Scale] 5-90%</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td></td>
</tr>
<tr>
<td>Waste reduction</td>
<td>![Impact Scale] 2-90%</td>
</tr>
<tr>
<td>Water consumption reduction</td>
<td>![Impact Scale] 10-30%</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>![Impact Scale] 1-50%</td>
</tr>
<tr>
<td><strong>Agility</strong></td>
<td></td>
</tr>
<tr>
<td>Inventory reduction</td>
<td>![Impact Scale] 10-90%</td>
</tr>
<tr>
<td>Lead time reduction</td>
<td>![Impact Scale] 7-90%</td>
</tr>
<tr>
<td>Changeover shortening</td>
<td>![Impact Scale] 30-70%</td>
</tr>
<tr>
<td><strong>Speed to market</strong></td>
<td></td>
</tr>
<tr>
<td>Speed-to-market reduction</td>
<td>![Impact Scale] 30-90%</td>
</tr>
<tr>
<td>Design iteration time reduction</td>
<td>![Impact Scale] 15-66%</td>
</tr>
<tr>
<td><strong>Customization</strong></td>
<td></td>
</tr>
<tr>
<td>Configuration accuracy increase</td>
<td>![Impact Scale] 15-20%</td>
</tr>
<tr>
<td>Lot size reduction</td>
<td>![Impact Scale] 55-98%</td>
</tr>
</tbody>
</table>

*Global Lighthouse Network: Four Durable Shifts for a Great Reset in Manufacturing*
Industrial Engineers can’t escape the inevitability of organizations wanting to climb the ladder of BPM maturity, thus new skills and familiarities with certain technology platforms are warranted. Many of which are not taught formally in academia.

**Select Skills & Tools Required / Available**

Recommended path given current climate. BUT ideal would be to have broader knowledge across a variety of platforms vs. singular knowledge of one.
Navigating Maturity Level 1 and the 1-2 Transition

Many IE’s, especially those deployed into small organizations, startups or organizations with lower maturity, may find themselves working on the basics, to setup the foundation for higher levels.

**Frameworks to Employ**

- Enterprise Levels 1-3 Mapping
- Swimlane Level 4 Mapping
- RACI Matrix
- SOP’s

**Tools to Support**

- Visio
- Excel
- Word
- Access
- Ad Hoc

**Strategies**

- Get an understanding of the enterprise business processes
- Choose, in priority order, business processes to get mapped (Visio is most common) and map by swim lane
- For the most critical processes, get clear SOPs in place and trained on
- Basic RACI matrix to see the interactions between and within processes
- Basic database management to extract some manual process data
Navigating Maturity Level 2/3 and the 2/3 - 4 Transition

It’s likely that this will be the most common place you find yourself in as an IE supporting an organization. Process exists, but the continuous framework to continuously monitor and adjust is immature. Some workflow is digitized, but rarely automated and process data is still sparse.

**Frameworks to Employ**

- Clear R&R Around Who “Owns” Process
- Multi-Tiered Governance PMO/BPI Model
- Process Digitization, Workflow
- Process Data Mining, Basic Analysis

**Tools to Support**

- Minitab
- Lucidchart
- SPC
- Excel
- Other tools

**Strategies**

- Typically, sustainability is an issue migrating to “managed” – processes don’t stay fresh. Figuring out who owns business process may seem trivial, BUT we need to strive to drive ownership.
- Establish governance and ownership, how/if PMO or corporate BPI exists, if it’s the departmental owners, etc.
- Begin exposing some of the workflows virtually/digitally in workflows leveraging appropriate tools.
- Begin dealing with process data, mined manually to assess the efficacy and basic stats on assessing and building future state.
Navigating Maturity Level 4 and the 4 - 5 Transition

This phase begins to stretch the typical IE background and does require access to some more advanced tools and analytics to properly employ. However, this phase can also deliver much higher ROI's via automation.

**Frameworks to Employ**

- **Digital Twin**

**Tools to Support**

- Power Automate
- UiPath
- airSlate
- blueprism
- Automation Anywhere

**Process Layers to Mined Data**

**Automation Workflow**

- Process Mining

**Strategies**

- Create the “digital twin” of in-scope business processes, those ripe for automation via technology platforms matched to your organizations tech stack / ERP
- Begin using tools to leverage RPA to automate some of the digital workflows you have. Some great candidates are typically found in the service back office around invoice management
- Work with more dynamic process data, mining both manually and semi-automatically and setup business rules for cases where decision support comes automatically without much human intervention
- Ensure integration of governance structure upon review of automated or semi-automated processes
Navigating Maturity Level 5 and the 5 - 6 Transition

There are very few organizations that are fully level 6 on BPM maturity. Those that have parts of their business at level 6 tend to be in financial services/banking, and tend to be highly transactional, with significant access to data, including process data.

**Frameworks to Employ**

- **AI, ML and other Algorithms**
  - Ensure a framework where process data is digital, mined and stored dynamically
  - Ensure digital twin is replicated of process
  - Instead of static business rules around the process, consider leveraging an LSTM algorithm based on a large data set of time-series data
  - Begin setting up test environments and leverage historical data and current data to test predictions
  - Ensure business rules are in place to detect out of control signals and warning signs before full autonomous control is given
  - Leverage relationships with vendors and other technology companies (consider Watson & Sagemaker use-cases)

- **Auto Neural Networks & Node Creation**

**Tools to Support**

- Celonis
- RSM
- Amazon SageMaker
- IBM
- BIC Process Design
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Just Ahead…..

2022 Webinar Topics under Development

• 22 March—ILSS Part II: Detailed best in class case examples of DMAIC projects
  https://us06web.zoom.us/webinar/register/WN_lwJ6KF4NTXua5WXwHLEq9A

• 7 April—Change Leadership & Management: Personal and Professional Management
  Module II

• 22-24 May—IISE’s Annual Conference: The Performance Excellence Track (Seattle, WA)

And don’t forget IISE’s new Operational Analytics Certification Program…
Contact us for More Info:

For more information on how IISE can play a role with your Professional Development needs:

James Swisher: jswisher@iise.org

For questions about our IISE Webinar Series and our IISE Operational Analytics Certification Program:

Scott Sink: ssink@jumpcurves.com

Special Thanks to our Sponsors for this Webinar:

https://www.thepoiriergroup.com/

For more information on how the Poirier Group can play a role with your Operational Excellence and organizational transformations please contact:

Jared Frederici: jared.frederici@thepoiriergroup.com

https://www.linkedin.com/in/jaredfrederici/

Eduardo Toledo: https://www.linkedin.com/in/eduardo-toledo-040a226/

https://origin-sc.flex.com/
Customer and Member Satisfaction and Feedback Survey

Business Process Management 4.0: Perspectives & Points of View

You can go to this IISE link soon and get deck and recording. https://www.iise.org/details.aspx?id=46729

Certificates of Participation will be e-mailed to you within 3 business days.
An Operational Analytics Certification will significantly enhance your foundational training.

Overview

Organizations are swimming in data, colloquially they are data rich and information poor.

Migrating from Data to Information to Insights and Understanding to Decisions/Actions and ultimately to Business Benefits Realization is the end game.

Organizations are losing at this game today because they don’t have the right knowledge and skill sets to execute the right strategies to harness the power coming from More Data and the ability to move it faster.

Professionals, perhaps most importantly, students in ISE, that become proficient at Operational Analytics will have unprecedented career opportunities.

This program is focused on building your knowledge and skills in a tiered fashion—Understanding to Principles, Methods, Tools to Application Skill Development as the foundation. This comes from this initial blended training program.

Sitting on top of that base, we’ll support your migration to higher levels of Mastery (Analysis, Solution Creation, System Design and Development, Deployment) with the Certification portion of this program.

Investment Requirement

Certificate:
~ 3-6 mos. Elapsed time
~ 220 hours (e.g. equivalent to 1, 3 credit hour U/G level class
$450 for ISE Students (must be members of IISE)
$575 for Professional ISE members, $725 for professional, non IISE members

Certification:
$250 for Student IISE members
$950 for Professional ISE Members, $1250 for Professional Non-Members of IISE
Who was this designed for

We had several target audiences in mind when we designed and developed this course:

1. Industrial and Systems Engineering Undergrads (Seniors) and Grads who want to augment their BSISE degrees;

2. Young Professionals who want to expand Career possibilities, strengthen Resumes, Linkedin Profiles and have a strong appetite for Analytics;

3. Business Intelligence Professionals who sense that there is more to Analytics than just creating lots of Power BI Reports and realize the real Leaders and Managers are overwhelmed with Data and frustrated that they can’t get IT to support them, as customers, better.

Our Faculty Member, Ben Amaba, likes this slide!!
### Course Modules and Learning Objectives

<table>
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<tr>
<th>Module</th>
<th>Description</th>
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<tr>
<td>1. Course Overview and Guidance</td>
<td>Understand the Fundamentals of Operational Analytics through the Voice of Thought Leaders in this field</td>
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<tr>
<td>2. Operational Analytics Perspectives and Points of View from Thought Leaders</td>
<td>Understand and Practice with the Data Management Role—how to get data, store it, organize it, cleanse it, integrate it...</td>
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<tr>
<td>3. Operational Analytics: The Data Management Role</td>
<td>Understand and Practice with the Data Analyst Role—how to understand the voice of the ‘customer’, how to understand the fundamental questions that need answered, how to convert data to usable information</td>
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<td>4. Operational Analytics: The Analyst Role</td>
<td>Understand Data Sciences—advanced data capture, data management, data analytics by building intelligence and learning into our ‘machines’</td>
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<td>5. Operational Analytics: The Data Scientist Role</td>
<td>Understand and Practice with the application of Op Analytics to Business Process Improvement and Integrated LeanSigma</td>
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<td>6. Operational Analytics: Business Process Improvement and Integrated LeanSigma Role</td>
<td>Understand and practice how to bring all this together in the form of Engineered Management Systems and to integrate in Visible Measurement Systems and effective Study-Adjust processes.</td>
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<td>7. Visible Measurement Systems, how to deploy to support Study-Adjust</td>
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<tr>
<td>8. Operational Analytics: The Management Systems Engineer Role</td>
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<td>9. Operational Analytics: Case Studies</td>
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<td>10. Operational Analytics Final Exam</td>
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Program Highlights

Recently pre-recorded webinar recordings in 60 minute digestible chunks provided by thought leaders and faculty in our program. On-Demand.

Best-in-class Case Studies
- Op Analytics embedded in Process Improvement Projects (6 practical, industry diverse tollgate decks to help you internalize how this works)
- Data Sets from real world projects to aid you in developing reduce to practice skills

The LearnUpon LMS is intuitive and easy to use and has a way for us to Track your Practice work and interact as appropriate.

Virtual Coaching Sessions by Module provided by Faculty
Community Q&A/Chat Boards.
Live, synchronous training sessions monthly.
Competency Development Model

- **Take the course, pass the exam**
- **Successfully Complete an OA Project** (prove you can reduce to practice)
- **Complete the Mastery Level Program (In Development)**
  Proof of breadth and depth

**Foundational Principles, Methods, Tools (Certificate)**

**Reduction to Practice Skills (Certification)**

**Advanced Mastery Level (Advanced Certification)**
Special Offer to Webinar Participants today…

https://www.iise.org/TrainingCenter/CourseDetail/?EventCode=OAO

The 10% off Coupon Code is OpAnalytics10