



Energy, Utilities & Resources NewsFlash

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Special Edition – Navigating volatility, bringing transparency and improving businesses continually through business process excellence

In this special edition of our EU&R NewsFlash, Peyush Dixit of PwC Indonesia Consulting and Dr. Suparna Dasgupta, Advisor, discuss Navigating volatility, bringing transparency and improving businesses continually through business process excellence.

Introduction



The introduction of process mining has started a revolution, a new breakthrough in data analysis like never before. Process Intelligence tool (Celonis) allows us to mine our entire process based on digital footprints in our systems. This has allowed us to be more efficient in every way, even enabling us to reduce our onboarding process for new customers by five days. Our customers are thrilled with our fast and more effective service.

**A European Energy and Utilities,
Oil and Gas company**

Source: Celonis, Customer stories



We elevated our business process management transformation using Process Intelligence solutions (SAP Signavio) and by connecting people, process, technology and top management sponsorship to unleash the energy needed to shape the future of our organisation together.

**An International
metals trading company**

Source: SAP Signavio, Customer stories

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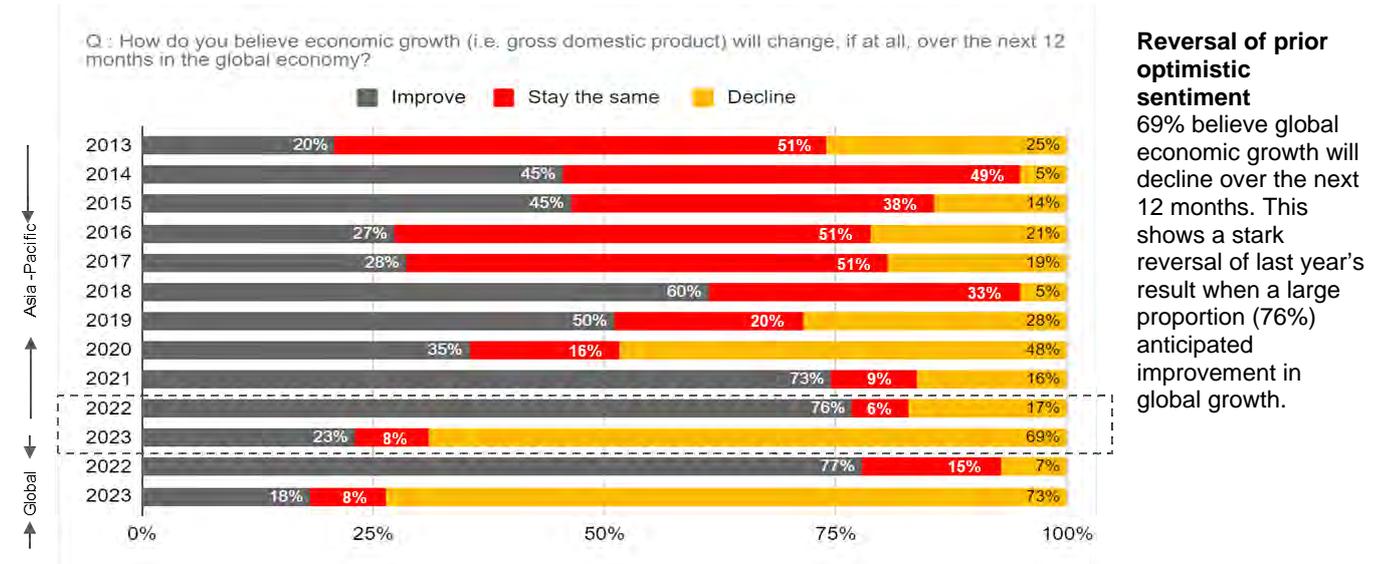
This is how senior executives reacted after implementing business process excellence tools to drive and sustain businesses. The viewpoint is understandable given today's challenging business environment (See figure 1), in which improvements in productivity and efficiency, as well as safety and sustainability, are vital to remain competitive in the energy, utilities & resources industry.

This is really one of the moments where driving efficiency gains is far more important than ever before. We are seeing a number of factors like the macro-economic environment, increasing cost pressures, and unmanageable inflation all coming together (See figure 2), particularly in operations. Most organisations are looking at how to get the best results and the most efficient way to operate - both their processes and their teams. The focus is bringing more value to make a difference in today's volatile environment that is here to stay for a while.

Asia Pacific CEOs' optimism in global economic growth is at a ten year low

CEOs in the APAC region are bracing for the impacts of a potential global recession, continued high inflation and volatile commodity prices. The International Monetary Fund (IMF) has cut their prior growth forecasts for Asia and the Pacific to 4.3% in 2023, down by 0.8%.

Figure 1.

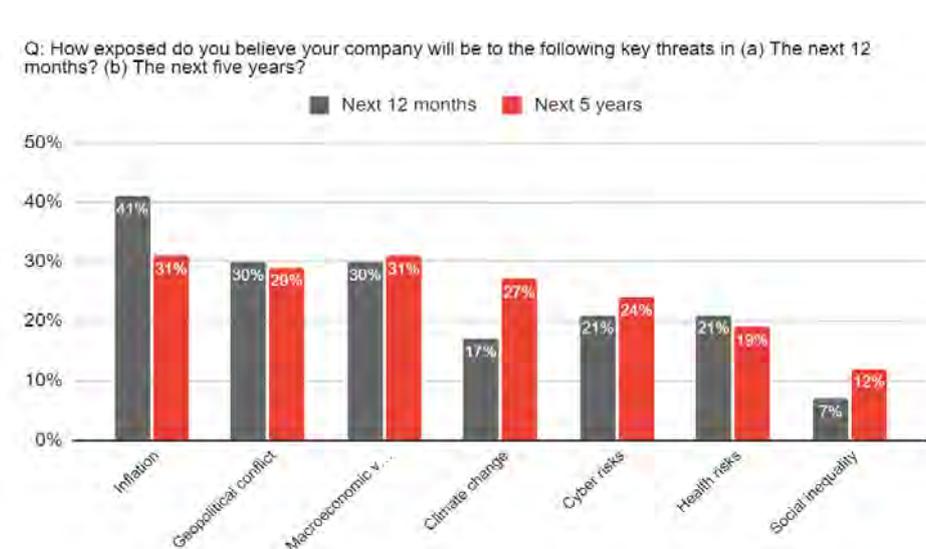


Reversal of prior optimistic sentiment
69% believe global economic growth will decline over the next 12 months. This shows a stark reversal of last year's result when a large proportion (76%) anticipated improvement in global growth.

Source: 26th Annual CEO Survey, Asia Pacific Report, 2023

The risks Asia Pacific CEOs expect in the next 12 months is across inflation, geopolitical conflict and macroeconomic volatility, however, in five years it looks different from today, with cyber and climate risk rising in importance

Figure 2.



Note: Showing sum of 'highly exposed' and 'extremely exposed' response
Source: 26th Annual CEO Survey, Asia Pacific Report, 2023

Prioritisation of short term profitability

- CEOs across the region perceive threats differently depending on economic maturities and nuances of their operating environment
- Perspectives change when considering the medium term (defined as five years).
- Climate in particular is progressively affecting operations through a cycle of disruption of supply chains and inventory
- Given their relative investment capacity, smaller companies will likely sharpen focus on the here and now profitability to remain viable.



Market trends in energy, utilities & resources companies

Figure 3.

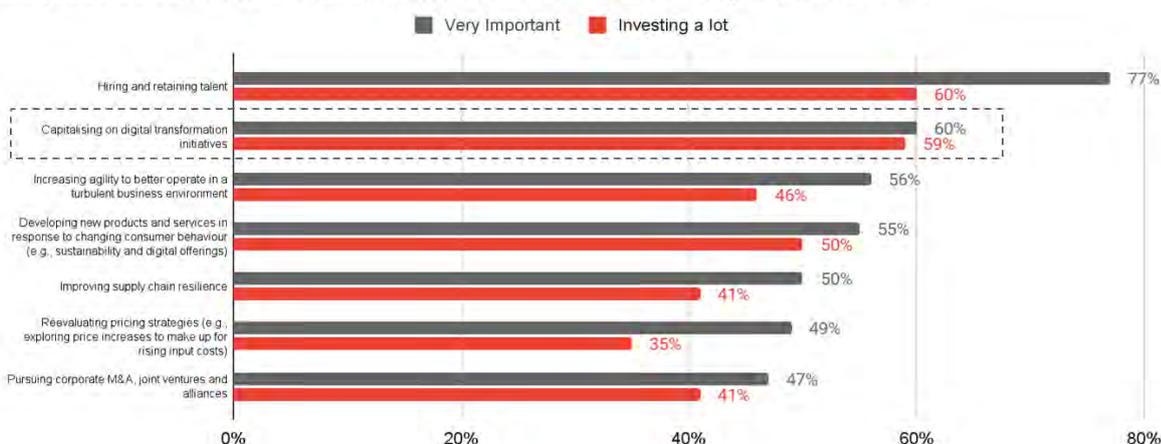
Mining, Metals, Minerals	Oil & Gas	Power	Others (Chemicals, Steam)
Trends			
Digitalisation of mining operations ¹¹	Digitalisation of upstream exploration & production activities ^{5,6}	Increased new & renewable energy (NRE) usage in SEA ¹⁰	Green steam from sustainable boilers for industrial companies (F&B, textile) ¹⁴
Transparency of commodities supply chain for ESG purpose ¹¹	Decline in upstream E&P investment E&P (~50% since 2014) ⁷	Smart metering and smart grid application ¹¹	Commercialisation of biodiesel (B30) for automotive fuel ¹⁵
Downstreaming of critical minerals, e.g. nickel, lithium ²	Development of gas as transition to NRE ⁸	Electrification of user products, e.g. electric vehicle ¹²	Development of green chemicals, e.g. ammonia, hydrogen ¹⁹
Optimised coal-based fuel, e.g. DME ^{3,4}	National oil companies (NOC) leads local fields production with nationalisation ⁹	Cross-border NRE-based electricity export-import contracts ¹³	
Challenges			
Sanctions and ban on commodity export, e.g. nickel	Price and supply volatility from geopolitical conditions	Renewable energy intermittency to fulfil base load	High cost to produce green chemicals for industrial use
Ukraine war impact on commodity price & supply fluctuation	Global restrictions and sanctions on Russian oil products	Utilisation of coal-based power plant to cover power demand surge	New infrastructure requirement to store hydrogen as energy source

Growth strategies hinge on talent and digital capability as inflation, pandemic and policy uncertainty persist

The combination of all these difficult elements emphasise how vital it is for the energy, utilities & resources companies to accelerate the adoption of digital technologies and applications, since these are amongst the most crucial tools they can employ to address efficiency and sustainability challenges and to improve profitability and resilience to further market volatility. (See figure 4). Business process intelligence tools that are underpinned by BPMN framework accelerates the digital transformation journey by providing data driven insights across business processes of any organisation. No gut feeling whatsoever!

Figure 4.

Companies are increasing investment in top growth drivers: Talent and Digital Transformation



Source: 2020 Digital Operations survey, Strategy& analysis

A survey conducted by PwC clearly indicated that digital implementation can deliver 10% increase in revenue & 8.5% decrease in costs from improved operational efficiency

Digital Operations Maturity Level is a key indicator to achieve the potentials based on our survey

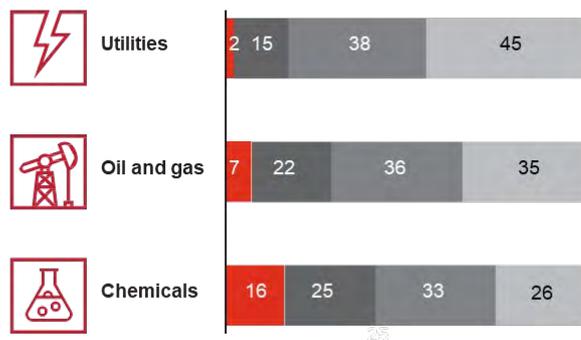
Figure 5.

Digital Operations maturity

Four levels of digital maturity

Digital Champion	The company has a clear position in the marketplace with complex and tailored internal, partner and customer solutions offered via multilevel digital interaction
Digital Innovator	The company has digitized most internal operations and has taken steps to connect with external partners/ customers to exchange information and collaborate
Digital Follower	The company has integrated internal functions such as sales, manufacturing, sourcing and engineering, enabling them to collaborate more closely
Digital Novice	The company has some isolated digital solutions and applications, but these exist at the functional or departmental level within the organisation

Level of digital operations maturity



Source: 2020 Digital Operations survey, Strategy& analysis

Inspired by the successes of digital implementation and using process intelligence tools, Indonesian energy, mining and utilities companies can seize the opportunity to unlock the benefits of continuous improvements, sustainability and innovation.



For us, enabling data connectivity, AI and data analytics is a huge focus. All of these separately would have an impact but when you combine them together in our industry, they create a lot of opportunities that we haven't really explored before now.

CDO, Major Global NOC

Source : 2020 Digital Operations Survey, Strategy& analysis, PwC



Process management is essential for successful digital transformation. Process Intelligence tools (SAP Signavio Solutions) have offered powerful support for the optimisation of our processes that ultimately contributes to the satisfaction of our customers.

Sr. Business Process Manager, Swiss Energy company

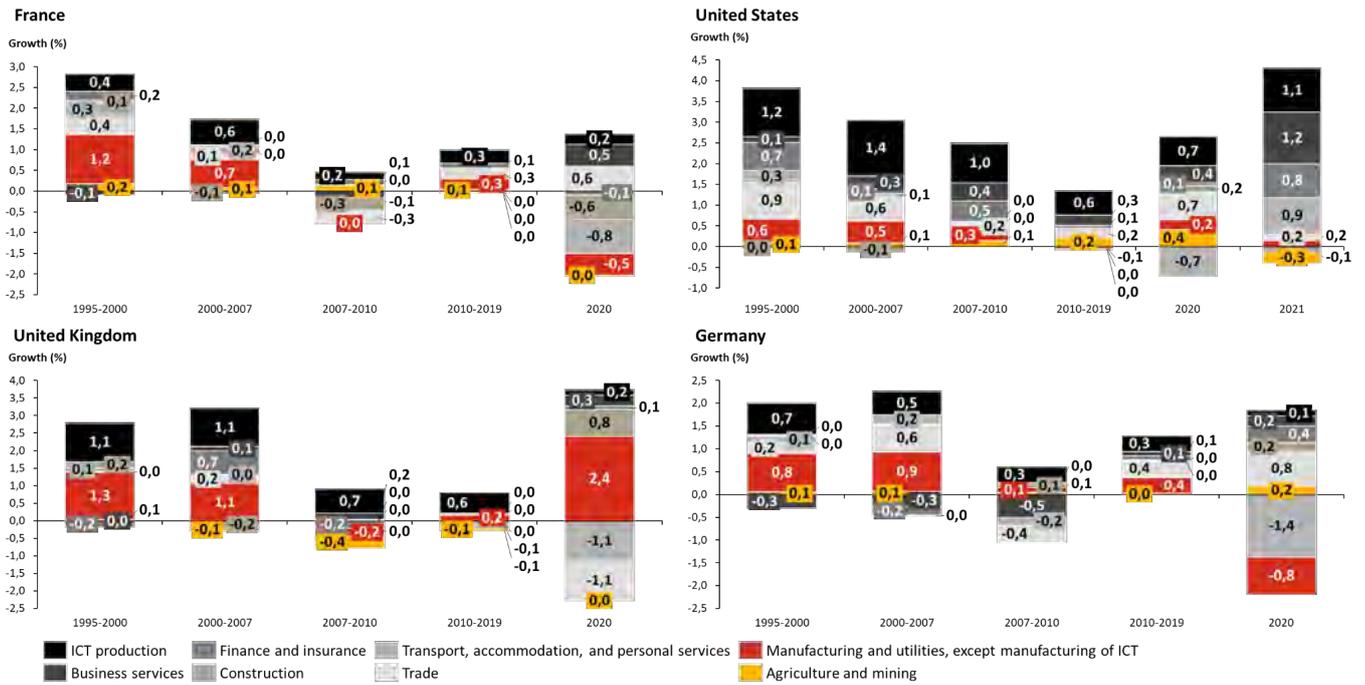
Source : SAP Signavio, Customer stories

This article explores how adopting a culture of business process excellence could be one of the key levers for the energy, utilities and resources companies in Indonesia, and the steps these companies can take to achieve a world class culture of process excellence.

Why is the culture of business process excellence important?

Industries such as manufacturing and business services have been experiencing a steady improvement in productivity and efficiency in the last 25 years. However, not only the pace but also a steady improvement over a period of time has not been seen in resources companies. Take the case of the mining industry, where productivity and efficiency has largely remained the same.

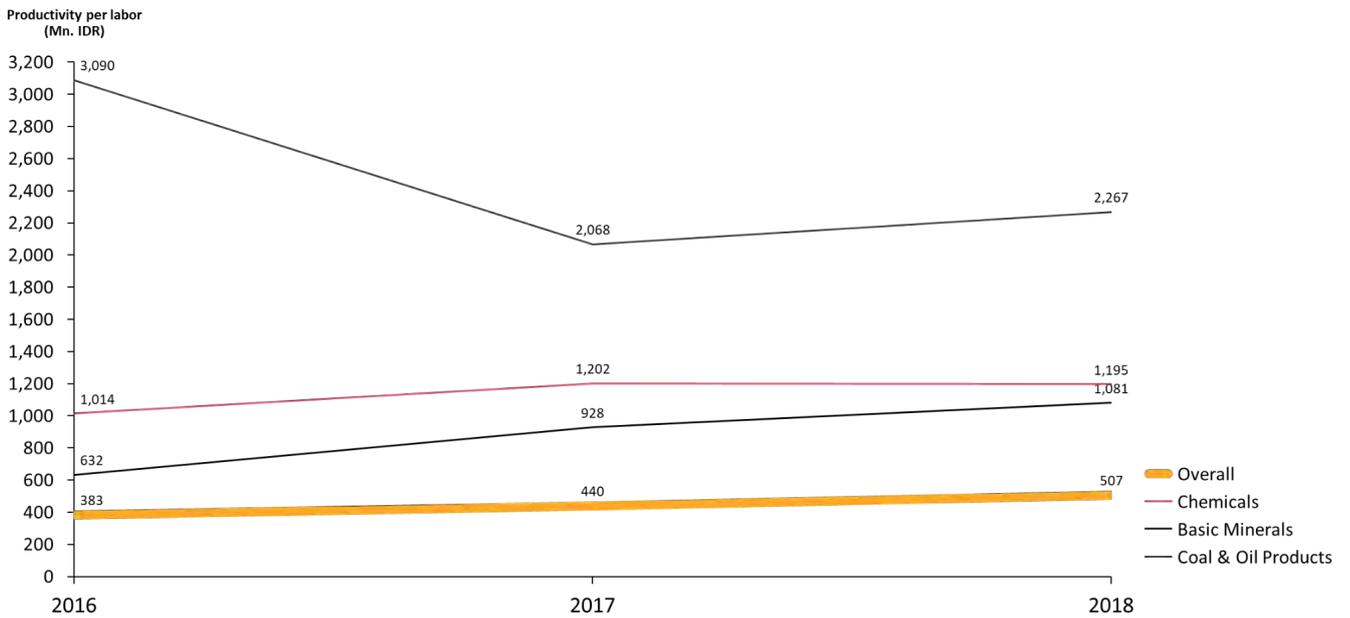
Figure 6. Labour productivity change in major economic force countries, by industry



Source: OECD, Compendium of Productivity Indicators 2023

Figure 7. Indonesia labour productivity (added value per number of labour), by industry

Indonesia Labor Productivity in Currency by Industry



Source: Indonesia Center of Statistics (BPS)

Challenges to continuous improvement

There could be several different reasons for energy, utilities and resources companies struggling to continually improve and then maintain the pace of those improvements.

Some of the key challenges are:

1. not fully understanding their business performance to the last accurate detail,
2. lack of sense of ownership across various functions in the organisation, and
3. practices of change management (coaching, communication) not fully deployed across the organisation.

Understanding business processes end to end: For an organisation's journey to improve continually, there is an imperative need to gain transparency. Only a fully transparent process can help organisations build their baseline to set efficiency targets and identify opportunities for automation and redesigning processes. One can draw lessons from other industries such as retail and consumer goods, since they get exposed to high volatility and have to manage tight profit margins. Therefore, aggressive efficiency targets are almost a normal way of working for them. It is a smart approach since many processes and functions apply across other industries, including energy and utilities.

Business process excellence tools such as process mining can help gain transparency into a real time performance of end to end processes. The keyword here is gaining end to end understanding because that will get the best returns and add most value. In addition, task mining tools can help identify each activity within a process and help in documentation. These tools not only help to identify improvement areas continuously, but also help organisations to scale. These tools also help in sustainability rating that is most critical for this sector.

Building sense of ownership: It may be slightly easier to gain buy-in and find allies to help lead the change given the current volatility and the disruptive environment today, alongside extreme efficiency pressure. It is very important to get a sponsor from the top management who is passionate and keen to sponsor. And then the top down approach needs to be complemented by bottom up participation. These are business enabled technologies hence a commitment from the business units is imperative.

Deploy enterprise wide change management practice: Once an organisation has a committed sponsor, it is worth establishing a Centre of Excellence, which could be added to an already existing CoE in relation to either operational excellence or intelligent automation. The PwC's *Connected Digital Enterprise (CDE)* brings together process and controls excellence, intelligent automation and operational excellence (new ways of working) to build a scalable and sustainable operating model to improve customer experience, mitigate risk, bring efficiency and productivity. A solid and well built organisational change management practice is by far the most important reason why successful organisations have achieved a culture of continuous improvement.

How to adopt a culture of business process excellence in the energy, utilities and resources sector

The top performing organisations in several industries are able to sustain a long term efficiency gain due to their maturity in business process excellence culture. The improvements in efficiency tend to go hand in hand with improvements in productivity and sustainability. The first step to unlocking value through business process excellence is to embed a clear purpose and clearly defined practices to support enterprise alignment, continuous improvements and cultural behaviours.

Enterprise alignment: includes business units and functions to align with organisation's vision and strategic priorities, build structured thinking where the primary focus is creating value for the customer. This drives unity of purpose within an organisation.

A Global Business Services (GBS) aligned with their global mining organisation's vision and strategy, re-invented themselves by deploying end to end process transformation keeping data at its core to become a high value business transformation partner. They have created a CoE and upskilled their workforce to adopt automation and process excellence technologies. The expected value is targeted towards improving their material and services

spend, reduced inventory, reduced freight spend, improved parts availability - all through data driven end to end processes diagnostic identifying waste, re-work and manual activity using process intelligence tools.

Customer first: should be the overarching mantra where the focus is to deliver quality products that exceed customer expectations and create additional value for the customer.

A global snacks and beverages producer wanted to develop the business transformation plan for their end to end Order to Cash through identifying front and back office improvement opportunities. By mixing traditional process discovery activities such as on-site visits with the data based approach by leveraging process mining, they implemented large scale transformations in warehouse and market operations and added automation and digitisation that resulted in an increase in ~2% sales and 10-30% cost reduction.

Employee engagement: Fostering an environment in which employees can thrive by promoting employee professional growth and development, build comprehensive training programs to build capability in their digital skills, and clearly define career growth opportunities to gently lead them into the digital future.

Starting out metals trading, this company is now one of the largest suppliers of systems and components to the food, beverage and pharmaceutical sectors. It devised a five-year strategy to accelerate sustainable, profitable growth and focus on sustainability, innovation, and digital solutions. To realise this, the company is working to build full process transparency, create a single source of truth for company data, and integrate new processes across its business, fundamentally changing how the company operates and delivers value to customers. They are using Business Process Management (BPM) to lead the way to a *new way of working* and shaping BPM as the backbone of operational excellence using business process excellence tools.

Social and environmental connections: Organisations are placing sustainability front and centre to maintain access to capital, talent, and consumers. Investors, regulators, and consumers demand fairly made products and services. To achieve this, organisations are embedding sustainability comprehensively into processes to create actionable insights across the entire value chain. For example, new data structures which cover sustainability parameters, data transparency and process actions are all working together.

A leading worldwide provider of specialty chemicals in order to quantify the carbon emissions of more than 150,000 shipments and for road transports, explored the opportunities to reduce the emissions of potentially up to 6% by developing the methodology on process and data insights by using business process intelligence tools

Maximise performance across energy, utilities and resources companies using Business Process Excellence

There are six tried and tested major transformation initiatives that hold the promise of success when using business process excellence as a critical lever:

Digital transformation: Organisation are using various digital tools with an aim to optimise business processes to save time, lower costs, and improve customer service. They need fact based insights to build best in class processes and workflows, which is where cutting edge process intelligence technology plays a critical role.

A Swiss company that provides people and companies with energy, water, mobility and telecommunications used process intelligence tools to document processes and identify automation opportunities that reduced their processing costs for provisioning by 60%.

Sustainability transformation: This one is the most interesting, however a highly critical one. Organisations are struggling to bridge the gap between sustainability vision and impact. Organisations have high sustainability targets, however, few actually in flight because they are struggling to operationalise sustainability strategy. With

new technologies like process mining, organisations can get from vision to result with a seamless delivery on the top and bottom line.

Being a leader in the chemical industry, this multinational organisation has big responsibilities when it comes to sustainability, and therefore has set the bar high for the standards they expect from their suppliers. The goal is to embed sustainability criteria into purchasing decisions. The process insights helps the procurement team to efficiently manage supplier ratings and measure sustainable procurement performance from corporate down to segment level. The organisation has set an ambitious goal of having 70% of their key suppliers rated by 2025 and is on track to meet their sustainability goals.

Supply chain transformation: Against a backdrop of unreliable inventory, there are significant swings in demand. Add to it the labour shortages. This is leading to shaky supply chains and inefficiencies in the energy and utilities sector, with the fear of losing customers. The race for the customers is won and lost on the supply chain track.

A global leader of electronic components and services, to balance their demand and supply gained full transparency through process intelligence tools were able to free up €6 mn in working capital and reduce costs by finding and fixing early supplier deliveries and making adjustments in accounts payable.



In today's world - the supply chain, the shortage of components, the non availability of certain products - it is key that we actually understand our own processes, have full transparency of our processes, and have very, very good short term reactions to real time activities.

Vice President, European Manufacturing company

Source : Celonis, Customer stories

Shared services transformation: Given the rising cost pressures and with the Covid-19 pandemic proving that processes can run well remotely, the remit and expectations from SSCs has grown. The expectation is to bring more value to the parent organisation who are chasing end-to-end process optimisation and economies of scale. The SSCs need to mature into truly strategic partners for the business to bring in innovation, not just services and efficiencies.

A global engineering and service company optimised its front office by strengthening their collaboration with their global business services. The aim was to optimise the collaboration and distribution of tasks amongst its front office teams and the global business services. Process mining tools helped in analysing the KPIs resulting in identification of improvement areas and initiation of optimisation projects. It also identified potential process steps that could be transitioned to GBS which resulted in an increase of hub penetration from approx. 60% to 80% of services provided across Finance.

IT transformation: Companies hesitate to start large scale IT transformation programs where sadly the majority end in failure. The primary reason is a misalignment between business and IT wherein the underlying process problems are not well understood and there is a high degree of operational risk attached to all IT transformations. Process excellence tools can help organisations understand business processes across all systems (including legacy), and help standardise and harmonise where needed. More importantly, the tools help to continually monitor and improve as well. These tools can be used across the entire transformation journey right - before, during and after.

The Australian arm of a global metal and energy company with operations spanned across 150 locations operating in mining, manufacturing, construction and distribution faced a challenge of evolving over decades and running into heterogeneous process landscape across eight separate business units. This limited the leadership team's visibility across its operations and impinged on transparency in the execution of procure-to-pay, opportunity-to-

cash, and other key business processes. Process intelligence tools and solutions (Signavio) were used to raise performance by mining processes and data, enabling S/4HANA transformation and creating a foundation for continuous improvement. One of the many achievements was a reduction of end close days by almost 50% (eight days to three days)

Workforce productivity: Organisations can use task mining tools to get full workforce visibility across entire departments and capture how teams spend their time across applications and tasks within a process. It helps gain insights on productivity and highlight improvement and automation opportunities by revealing re-work, manual tasks and best practices. This hugely enhances process optimisation and enhances the employee experience.

A global oil and gas industry giant in its Centre of Excellence has added a task mining tool to visualise and gain deep insights into all the differences in their processes, understand the anomalies so as to redesign into what they called as the happy path. The aim is to bring higher productivity in their teams as also efficiency in their process flow through standardisation

Conclusion

Energy and utilities, mining and chemicals companies, as well as other industry sectors in the APAC region, including Indonesia, are facing a tremendous challenge due to impacts of a potential global recession, continued high inflation, supply chain disruption, geopolitical conflicts and macroeconomic volatility. One of the most viable responses to these systemic challenges is to accelerate digitisation strategies to help improve resilience and remain competitive. This effort should include:

- Focus on improvements in productivity, efficiency and sustainability making it the three major strategic pillars of the organisation
- Harness data through process intelligence tools to get accurate insights of your business performance and to analyse manual efforts, rework and variations to enable standardisation and automation - this will make processes efficient, people optimally productive and lead to sustainable businesses
- Investing in business process intelligence tools and checklist it as a must-have technology stack of the organisations digital toolbox
- Embed a business process excellence culture to design and implement innovative solutions with a continuous improvement mindset

By focussing their efforts in the above mentioned areas, energy, utilities and resources companies in Indonesia can strive towards the level of continuous improvements experienced by other top performing companies in other sectors. It is clearly evident that companies are unlocking significant value from technological improvements focusing on continuous improvements particularly, in areas of productivity, efficiency, sustainability and safety. Some energy, utilities and resources companies in APAC have already taken their first digitisation steps, others need to follow so they can maintain the pace of change and sustain their gains in the future.

Sources:

- 1) 26th Annual CEO Survey, Asia Pacific Report, 2023
- 2) [Mine 2022: A Critical Transition, PwC, 2022](#)
- 3) [Indonesia's Mining Sector in Brief, Indonesia Chamber of Commerce \(Kadin\), 2022](#)
- 4) [Coal Gasification Project to Slash LPG Imports, Develop Green Economy, and Bring Investments to Indonesia, PTBA, 2021](#)
- 5) [Indonesia's coal gasification project targeted for completion in 2027, IndonesiaWindow, 2022](#)
- 6) [Digital operations study for oil & gas, Strategy&, 2020](#)
- 7) [Supercharging digital transformations in oil & gas, PwC Middle East, 2021](#)

- 8) Macro Trends in Oil & Gas and Low Carbon, Strategy&, 2022
- 9) The Role of Gas in Today's Energy Transitions, IEA, 2019
- 10) The Oil and Gas Industry in Energy Transitions, IEA, 2020
- 11) Southeast Asia Energy Outlook, IEA, 2022
- 12) Changing Trends: SEA's energy sector strategies evolve for good, Southeast Asia Infrastructure, 2020
- 13) How Southeast Asia is getting ready for the EV revolution, The Jakarta Post, 2022
- 14) Regional electricity trade in ASEAN, PwC Singapore, 2022
- 15) Biomass Boiler Market to grow at a CAGR of 18.1% during the forecast period from 2022 to 2031, Globe NewsWire, 2023
- 16) Diverse, sustainable biofuels crucial for Indonesia's energy transition, The Jakarta Post, 2022.
- 17) Southeast Asia takes initial steps in hydrogen development, S&P Global, 2021
- 18) Top 8 Water Management Trends & Innovations in 2023, Startus Insights, 2023
- 19) PwC Pulse Survey: Executive views on business in 2022
- 20) 2020 Digital Operations survey, PwC Strategy& analysis
- 21) OECD, Compendium of Productivity Indicators 2023
- 22) Indonesia Center of Statistics (BPS), 2023
- 23) Customer success stories, Celonis website (<https://www.celonis.com/customers/>)
- 24) Customer success stories, SAP Signavio website (<https://www.signavio.com/success-stories/>)
- 25) Several PwC Projects across the world on business process intelligence and management

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