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Sustainability transformation: The role of accountancy and finance professionals in the Singapore manufacturing sector

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SUSTAINABILITY TRANSFORMATION

The Role of Accountancy and Finance Professionals in the Singapore Manufacturing Sector

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EXECUTIVE SUMMARY

Sustainability Transformation: The Role of Accountancy and Finance Professionals in the Singapore Manufacturing Sector is a joint study carried out by the Institute of Singapore Chartered Accountants (ISCA), Singapore Manufacturing Federation (SMF), Deloitte & Touche Business Advisory (Deloitte), and Singapore Management University (SMU). There are three key objectives as it investigates Singapore's manufacturing sector. They are to (i) shed light on the current state of sustainability integration into the corporate strategies and business models; (ii) understand the skills needed in sustainability transformation; and (iii) assess the role of accountancy and finance professionals in sustainability transformation.

The study reveals that sustainability is already reshaping the Singapore manufacturing sector. The majority of companies surveyed (70%) have started their sustainability transformation in one form or another, and many have initiated discussions. However, on the whole, only 37% of companies have implemented sustainability initiatives, and 21% have reported on sustainability. On the bright side, these percentages are slated to double within 1–3 years. Sustainability is also becoming a new business norm for the manufacturing sector; the study shows that 62% of companies believe that their industry peers have aligned their business strategies to sustainability targets.

The expansion of sustainability into the manufacturing sector has led to accountancy and finance professionals potentially playing a bigger role in their organisations, particularly in aligning the sustainability objectives with business objectives. The associated higher-value tasks include keeping abreast of sustainability trends and needs to respond to emerging sustainability challenges effectively, improving energy efficiency to optimise resource utilisation and reduce environmental impacts, and exploring sustainable alternatives to make informed decisions and adopt more eco-friendly practices. This aligns with our understanding of the rising expectations for accountancy and finance professionals to step up and assume more value-added and tactical roles. In this respect, the study discovers that 55% of manufacturing companies surveyed have either begun or plan to collect non-financial data for sustainability reporting and, within this group, 90% expect their accounting and finance functions to take on high-value strategic roles.

The study notes that manufacturing companies are mostly focusing their sustainability efforts on six areas: circular economy, reducing greenhouse gas emissions, renewable energy and energy efficiency, preventing pollution, sustainability reporting, and sustainable finance. Corporate governance for sustainability and sustainability data management are also emerging areas of focus.

From the findings, we distilled 10 sustainability skill sets for sustainability transformation for the manufacturing sector: stakeholder and community engagement, circular economy and resource efficiency, carbon and decarbonisation strategies management, sustainability data management and impact measurement, sustainability reporting, sustainability risk management, sustainable finance, internal audit on sustainability governance, climate and nature financial implication quantification, and natural capital management.

As the corporate sustainability landscape rapidly evolves, companies must ensure that the relevant teams are equipped with the necessary competencies to drive their sustainability efforts. Accountancy and finance professionals have the knowledge and transferable capabilities that position them to champion the skills required in the emerging sustainability spaces. However, among the companies surveyed, the accounting and finance teams possess varying levels of readiness. Some 42% reported having only "elementary" skills across all sustainability-related skill sets, 27% said they have "emerging" skills, and 31% said they have "strategic" or "leading" skills. Clearly, there is room for the companies to elevate their skills from "elementary" and "emerging" to "strategic" and "leading".

This report looks at the skill sets to enable accountancy and finance professionals to steer the sustainability journey for their organisations, and offers five recommendations for the manufacturing companies in Singapore undertaking their sustainability transformation.

The study uses a mixed-methods research design to garner quantitative and qualitative data from SMF's spectrum of industry groups. The information was obtained through a survey of 115 manufacturing companies, one-on-one interviews with senior executives from 20 companies, and two focus group sessions with the Packaging, and Building Products & Construction Materials industry groups. Among the companies in the study, 18% are multinational companies, while the remaining 82% are small and medium-sized enterprises; 8% of the companies are listed (on SGX, NASDAQ and NYSE). All 10 of SMF's industry groups are represented in the study.

CHAPTER 1

INTRODUCTION AND OVERVIEW

SUSTAINABILITY IN MANUFACTURING

The manufacturing sector is a key pillar of the Singapore economy. In 2022, the manufacturing sector contributed 21.6% to Singapore's nominal gross value added, which is the highest among all sectors. In addition, the manufacturing sector is also the highest consumer of electricity. As such, the sector's success in its sustainability transformation will be key to Singapore becoming a green economy by 2030 and achieving its net-zero target by 2050.

OVERVIEW OF SINGAPORE MANUFACTURING SECTOR'S KEY FINDINGS

Sustainability has become a new business norm for the manufacturing sector. The majority of companies (70%) in this study have started their sustainability transformation in one form or another, and many have initiated discussions. However, on the whole, only 37% of companies have implemented sustainability initiatives and 21% reported on sustainability. On the bright side, these percentages are slated to double within 1–3 years. About 37% have implemented sustainability initiatives in their operations while another 38% have plans to do so within the next 1–3 years.

37%

MANUFACTURING COMPANIES HAVE IMPLEMENTED SUSTAINABILITY INITIATIVES

38%

MANUFACTURING COMPANIES PLAN TO IMPLEMENT SUSTAINABILITY INITIATIVES IN NEXT 1-3 YEARS

This study found that manufacturing companies are focusing their sustainability efforts on these six areas:

- Circular economy
- Reducing greenhouse gas (GHG) emissions
- Renewable energy and energy efficiency
- Preventing pollution
- Sustainability reporting
- Sustainable finance

The study also identified two emerging areas of focus for manufacturing companies – corporate governance for sustainability and sustainability data management.

From these findings, the research team distilled 10 sustainability skill sets required for the sustainability transformation of the manufacturing sector:

1. Stakeholder and community engagement
2. Circular economy and resource efficiency
3. Carbon and decarbonisation strategies management
4. Sustainability data management and impact measurement
5. Sustainability reporting
6. Sustainability risk management
7. Sustainable finance
8. Internal audit on sustainability governance
9. Climate and nature financial implication quantification
10. Natural capital management

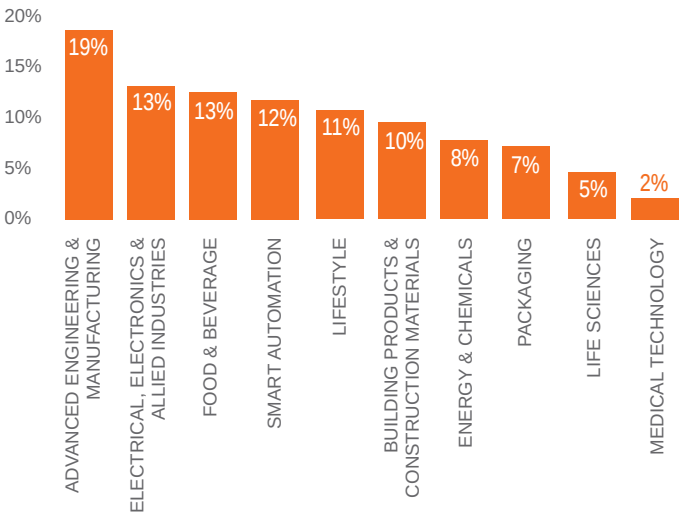
OVERVIEW OF THE ACCOUNTANCY AND FINANCE PROFESSIONALS' EXPANDING ROLE IN SUSTAINABILITY

Accountancy and finance professionals are taking on high-level tasks and assuming high-value strategic roles that align with sustainability initiatives and objectives. This study found that 55% of the companies have plans to collect, or have started collecting, non-financial data for sustainability reporting. This has prompted respondents to expect the accounting and finance function in most of them (90%) to engage in higher-level tasks that align with their sustainability objectives.

This study also found that accountancy and finance professionals are well suited to acquire the 10 required skill sets for the sustainability transformation of the manufacturing sector.

Research Intent

This study aims to raise awareness of sustainability opportunities and risks for manufacturing companies and encourage more accountancy and finance professionals to champion sustainability transformation in their companies.



Research Methodology

The study employs a mixed-methods research design to garner quantitative and qualitative data from the SMF's spectrum of industry groups.

- The information was obtained through a survey of 115 manufacturing companies
- One-on-one interviews with senior executives from 20 companies
- and two focus group sessions with the Packaging, and Building Products & Construction Materials industry groups

All of SMF's 10 industry groups are represented in this study. The respondents' profiles are:

- 18% of the companies are multinational companies (MNCs) while 82% are small and medium-sized enterprises (SMEs)
- 8% of them are listed on a stock exchange (SGX, NASDAQ and NYSE)
- 40 companies have manufacturing facilities in Singapore, among which 32 consider Singapore their primary location to meet their manufacturing needs

2. "Elementary" skills: able to perform routine tasks under direct supervision, guidance, or rely on external consultancy support
3. "Emerging" skills: able to perform less routine work with the ability to exercise judgement under broad direction
4. "Strategic" or "leading" skills: able to perform complex tasks and provide leadership, strategy, and/or overall direction

THE SINGAPORE GREEN PLAN 2030

In February 2021, the government unveiled The Singapore Green Plan 2030 to advance the national agenda on sustainable development by 2030. The Singapore Green Plan charts ambitious and concrete targets over the next 10 years under five key pillars: city in nature, energy reset, sustainable living, green economy and resilient future. The Singapore Green Plan 2030 is a whole-of-nation effort that builds on the sustainability developments of preceding decades. It is spearheaded by five ministries comprising the Ministry of Sustainability and the Environment, Ministry of Education, Ministry of National Development, Ministry of Trade and Industry, and Ministry of Transport. The Green Plan has been described as a "living plan" which will evolve as strategies develop and are refined according to changes in technology and other considerations. The comprehensive and holistic plan strengthens Singapore's commitments under the United Nation's 2030 Sustainable Development Agenda and the Paris Agreement. It also serves to progress the country's ambition towards net zero. The Green Plan is envisioned to strengthen the country's economic, climate and resource resilience, improve the living environment, and bring new business and job opportunities.

Source: The Singapore Green Plan website accessed 23 October 2023

SUSTAINABILITY NEEDS AND GAPS IN MANUFACTURING

- Circular economy
- Reducing greenhouse gas (GHG) emissions
- Renewable energy and energy efficiency
- Preventing pollution
- Sustainability reporting
- Sustainable finance
- Corporate governance for sustainability
- Sustainability data measurement

SUSTAINABILITY SKILL SETS

1. Stakeholder and community engagement
2. Circular economy and resource efficiency
3. Carbon and decarbonisation strategies management
4. Sustainability data management and impact measurement
5. Sustainability reporting
6. Sustainability risk management
7. Sustainable finance
8. Internal audit on sustainability governance
9. Climate and nature financial implication quantification
10. Natural capital management

Circular Economy

The European Parliament describes the circular economy as "a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended". Hence, the central idea of a circular economy is to prolong the life cycle of materials and products, to help reduce the amount of waste.

In Singapore, policies have been initiated to encourage the circular economy, such as the Extended Producer Responsibility (EPR) System for E-waste Management.

Reducing GHG Emissions; Renewable Energy and Energy Efficiency

Singapore has made commitments to achieve net-zero emissions by 2050, as part of its long-term low-emissions development strategy. As part of this plan, Singapore works towards reducing its GHG emissions by using less carbon-intensive fuels, and improving its energy efficiency. As the manufacturing industry is the largest energy-consuming sector in Singapore, the government has highlighted many opportunities for energy savings and management to minimise energy wastages, cut energy costs, and help companies reduce their spending.

Defining GHG Emissions, and Carbon Tax

The Green House Gas Protocol of 2001 has provided a language for speaking about carbon emissions. The terms "Scope 1", "Scope 2", and "Scope 3" of emissions have specific definitions:

- **Scope 1 emissions:** GHG emissions that a company makes directly (for example, emissions from running boilers)
- **Scope 2 emissions:** GHG emissions that a company makes indirectly, (for example, emissions from using electricity)
- **Scope 3 emissions:** GHG emissions that the company is indirectly responsible for, across its value chain (for example, emissions from buying products and when customers use company-made products)

In 2019, Singapore introduced a carbon tax for high emissions industrial facilities through the Carbon Pricing Act. The carbon tax mechanism is supported by a robust measurement, reporting and verification framework.

The carbon tax rate has been set at S$5 per tonne from 2019 to 2023, S$25 per tonne in 2024 and 2025, and S$45 per tonne in 2026 and 2027, with a view of reaching S$50 to S$80 per tonne by 2030.

Sustainability Reporting – A New Global Baseline

In June 2023, the International Sustainability Standards Board (ISSB) published two universal sustainability reporting standards: IFRS S1 for General Requirements for Disclosure of Sustainability-Related Financial Information, and IFRS S2 for Climate-Related Disclosures.

These new standards are designed for companies to provide sustainability-related information alongside financial statements. They are intended to help improve confidence and trust in company disclosures about sustainability, which had long been operating in a fragmented landscape of sustainability-related standards.

CHAPTER 2

SUSTAINABILITY IS A MEGATREND IN THE MANUFACTURING SECTOR

Sustainability is already reshaping the Singapore manufacturing sector. Companies are becoming more sustainable both voluntarily, and involuntarily, the latter as a result of the push from their supply chain.

The majority of companies (70%) in this study have started their sustainability transformation in one form or another, and many have initiated discussions. Some 83% began their transformation as part of their own business strategy, while 17% were motivated by their supply chain. This suggests that sustainability is seen more as an opportunity in the manufacturing sector, in contrast to compliance or risk.

However, as seen in Chart 1, only 21% of the companies surveyed report on sustainability. This is not unexpected as most of the respondents are non-listed SMEs and therefore, are not required to comply with sustainability reporting regulations. The low percentage suggests that a significant proportion (79%) of manufacturing companies still have room to enhance their transparency and disclosure regarding sustainability practices and impacts.

Notwithstanding the current low disclosure figure, 34% of companies (Chart 1) have expressed their intent to commence sustainability reporting within the next 1–3 years, which reflects a positive inclination towards improving transparency and accountability for sustainability practices. The study further suggests that this number would likely continue to rise given the expansion of green finance, decarbonisation efforts, and clean energy transition.

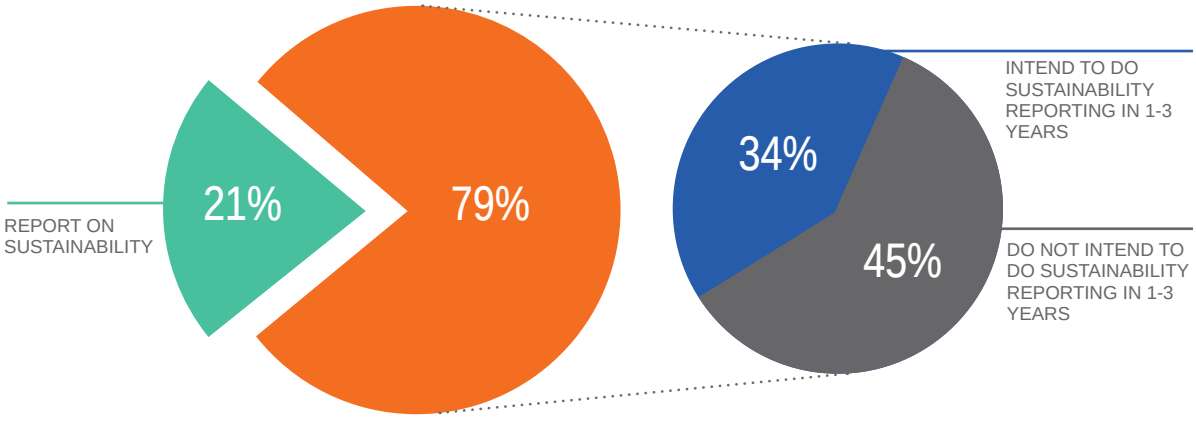


CHART 1 | ZOOMING IN ON SUSTAINABILITY REPORTING

SUSTAINABILITY IS BECOMING A NEW BUSINESS NORM FOR THE MANUFACTURING SECTOR

There is evidence that sustainability is an integral part of organisations. Companies in the study employ various approaches to promote sustainable practices within their organisations. One in two companies embed sustainability into their company's business strategy, provide training on sustainability, or ensure that their senior management regularly communicates the importance of sustainability to employees. The results are generally encouraging as there are efforts to promote sustainable practices across the organisation.

About 53% of the companies have concrete plans to reduce GHG emissions, indicating a commitment to address climate change and promote sustainability within their operations. Among the companies with GHG emission-reduction plans, the most common strategies include waste reduction and material recycling, emphasising the importance of circular economy principles, and sustainable waste management in mitigating GHG emissions (Chart 2). The second-most popular strategy is enhancing energy efficiency in production processes, which involve optimising processes to reduce energy requirements, adopting automation where applicable, and reusing water/steam to minimise energy consumption and GHG emissions.

How does your company plan to reduce GHG emissions?

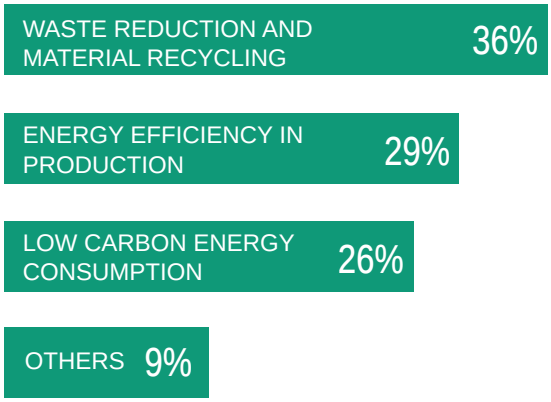


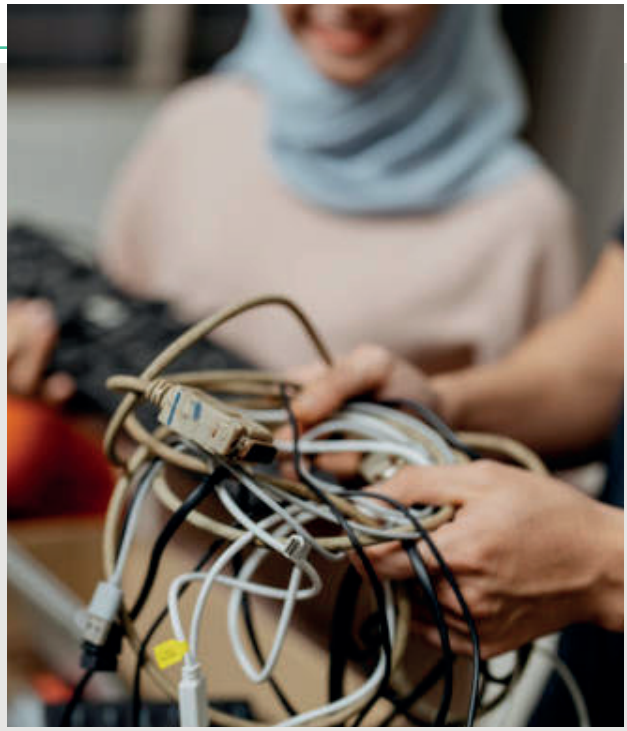
CHART 2 | WAYS TO REDUCE GHG EMISSIONS

BOX STORY

Extended Producer Responsibility in Singapore

The National Environment Agency (NEA) of Singapore introduced the EPR system for e-waste management scheme in July 2021. This is a response to the growing generation of more than 60,000 tonnes of electrical and electronic waste (e-waste) each year. The scheme will ensure that producers properly collect and handle e-waste, and extract valuable resources from e-waste, which will eventually safeguard the environment and our health.

Source: National Environment Agency website, accessed 14 Oct 2023



BOX STORY

Mandatory Packaging Reporting Framework

The Mandatory Packaging Reporting (MPR) initiative has the dual purpose of enhancing corporate awareness regarding the advantages of reducing packaging waste and motivating companies to minimise their packaging usage. It serves as a foundational step towards the establishment of an Extended Producer Responsibility (EPR) framework for managing packaging waste, including plastics, by no later than 2025. Under this compulsory reporting system, producers of packaged goods, such as brand proprietors, manufacturers, importers, and even retailers like supermarkets, that have a turnover of more than 10 million, will be obligated to provide the NEA with data on their packaging materials placed in the Singapore market. This data should be categorised by packaging material type (for example, plastic, paper, metal, glass), packaging format (for example, carrier bags, bottles), and their respective weights. Moreover, companies will also be required to submit their 3R (reduce, reuse, recycle) plans, which outline key initiatives and key performance indicators (KPIs) for the forthcoming three years.

Source: Ministry of Sustainability and the Environment website, accessed 23 Oct 2023

PERCEPTIONS OF SUSTAINABILITY

Another sign that sustainability is becoming a new business norm is in the perception of industry peers. More than half (62%) of the companies believe that their industry peers have aligned their business strategies to sustainability targets, while 27% disagree (Chart 3). This points to an industry consensus that sustainability transformation is the way forward.

The survey also asked the respondents to rate the preparedness of their industry peers in the sustainability space. The responses varied across different sustainability areas. It is interesting to note that many companies believe that their industry peers are prepared for sustainability, although only 21% are reporting on their sustainability efforts. A possible reason could be that many companies in the manufacturing sector have already started to prepare for sustainability reporting, which is consistent with what we presented earlier.

Do you agree:
Companies in my industry group have aligned their business strategies to sustainability targets.

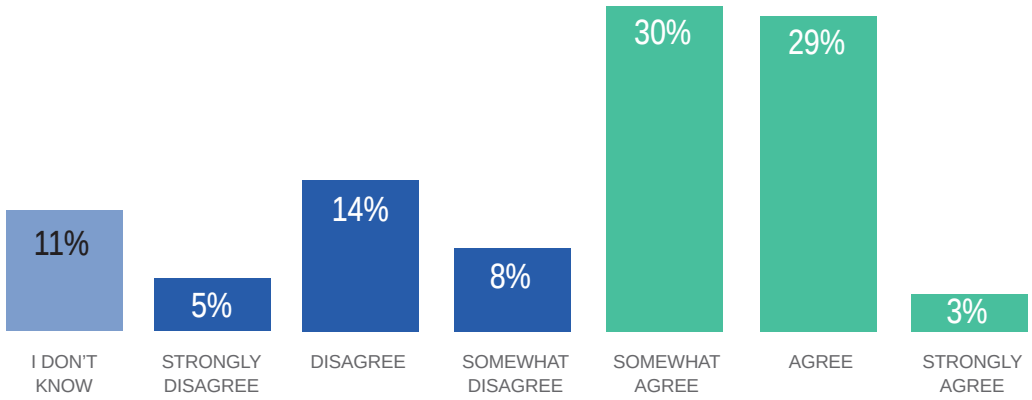


CHART 3 | PERCEPTION OF SUSTAINABILITY PRACTICES IN INDUSTRY PEERS

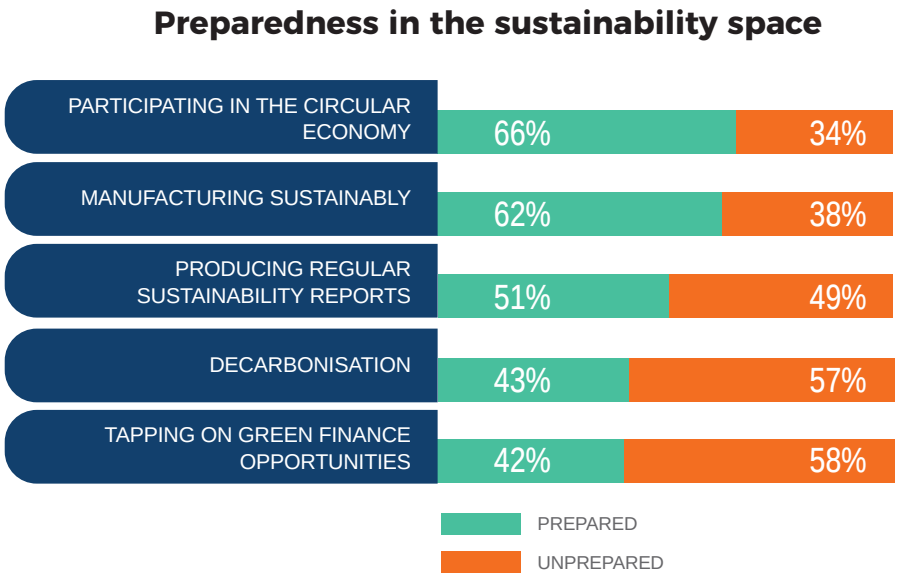


CHART 4 | PERCEPTION OF PREPAREDNESS OF SUSTAINABILITY IN INDUSTRY PEERS

BOX STORY

Dell – Circular Economy Strategy

Dell is a leading global technology company that develops and sells information technology infrastructure. Dell's mission is to drive technological advancement while prioritising sustainability, inclusion and positive societal impact. The company emphasises a circular economy model, where the use of sustainable materials, including biodegradable and recyclable stocks and supplies, is paramount.

One of Dell's sustainability efforts is the use of recycled materials in notebook power connectors and laptops. Some 90% of the plastic in its power adapters are made from recycled materials, and 50% recycled copper is used in the cable. A significant portion (up to 30%) of its Latitude laptops are made from recycled plastic, 39% use bio-based rubber feet, and 21% of the lid are made from bio-based plastic for the Latitude 5440/5540/5340 and 5340 2-in-1. And, 20% of the laptop lids for the Latitude above-5000 series are made from reclaimed carbon fibre. An innovative aspect of Dell involves reusing materials from other industries, such as repurposing carbon fibre from the airline industry for its laptops.

By 2030, Dell aims to make more than half of its product content from either recycled, renewable

or reduced carbon emissions material, ensuring 100% recycled packaging, and achieving 50% recycled/renewable content in its products.

Employing a "think-back" approach, equipment collection and refurbishment also contributes to Dell's sustainability strategy. The company practises dematerialisation and optimises components to minimise waste. Dell's Asset Recovery Services helps customers securely and responsibly retire old assets while protecting both the business and the planet. Businesses are offered credit advances when they return equipment for a refresh, while consumers are engaged through trade-ins and electronic waste collection.

Energy-efficiency improvements are another component of its sustainability strategy. Dell Technologies recently renovated its Changi office and, by leveraging technology, it has plans to reduce electricity consumption through energy usage tracking and optimising room utilisation. The company has extended its sustainability initiatives globally, with similar technology-driven renovations in other offices including Tokyo and Bangalore.

Source: Dell Technologies

Companies in the study also tend to believe that their industry peers are prepared in sustainable manufacturing practices (Chart 4), which includes using sustainable product design, adopting sustainable material selection and participating in the circular economy, which involves reducing waste, recycling and reusing existing materials and products as long as possible.

On the other hand, in terms of tapping into green finance opportunities (for example, green bonds, green loans, etc) and decarbonisation efforts (for example, carbon tax and carbon credits trading), more companies (58% and 57%, respectively) think that their industry peers are not as prepared (Chart 4). This may be explained by the profile of the sample companies in the study – many of them are SMEs, which may not have the economies of scale to undertake green projects.

SUSTAINABILITY – WHICH AREAS ARE MANUFACTURING COMPANIES FOCUSING ON?

Sustainability initiatives are gaining traction among companies in the sector. About 37% of companies in this study have already implemented sustainability initiatives within their operations, while another 38% have plans to do so in the next 1–3 years (Chart 5).

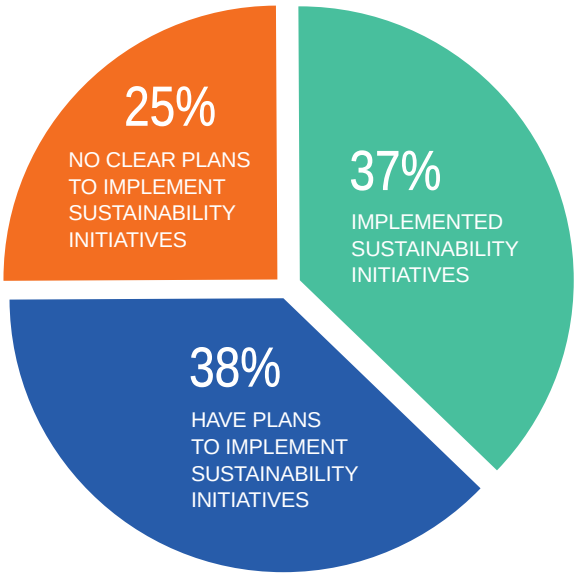


CHART 5 | SUSTAINABILITY INITIATIVES AMONG MANUFACTURING COMPANIES

Among the sustainability initiatives implemented or are in the pipeline in the next 1–3 years, the companies surveyed are focusing their sustainability efforts on six areas: circular economy, reducing GHG emissions, renewable energy and energy efficiency, preventing pollution, sustainability reporting, and sustainable finance (Table 1).

The manufacturing companies are also increasingly allocating more resources in two areas of sustainability (Table 1). First, there is an increasing focus on sustainability data: more than 55% of companies have started collecting or have plans to collect non-financial data for sustainability reporting in the next 1-3 years. Second, corporate governance for sustainability is becoming more prevalent. The survey results found that 31% of companies have a process for managing sustainability-related risks, and 44% have plans to implement a process for managing sustainability-related risks in 1-3 years. This upward trend for managing sustainability-related risks would likely increase the resources required for corporate governance.

TABLE 1

Sustainability Focus Areas of Manufacturing Companies

- Circular economy
- Reducing greenhouse gas (GHG) emissions
- Renewable energy and energy efficiency
- Preventing pollution
- Sustainability reporting
- Sustainable finance

Emerging areas in sustainability manufacturing companies

- Sustainability data
- Corporate governance for sustainability

BOX STORY

Hong Leong Asia – Research, Development and Innovation to Increase Efficiency

Hong Leong Asia is a member of the Hong Leong Group of Companies, a Singapore-based conglomerate. The company has embarked on sustainability reporting and is focusing its sustainability efforts on the core businesses with the biggest impact on its revenue: the diesel engine business in China, and building materials in Malaysia and other major cities in Southeast Asia.

Sustainability issues have mainly been driven by regulations, especially in China, where there are stricter emission standards for the local automotive industry. While tackling the stricter regulatory environment was the catalyst for the company's powertrain solutions business to invest in R&D activities, today, its R&D efforts are geared towards new energy solutions. As to the built environment industry, although green building standards in Singapore and Malaysia have been implemented for some time, the regulatory guidance for greener building materials is only starting to take place. As a result of the company's integrated building materials supply chain and partnerships, these businesses are able to provide the market with greener building materials. Hong Leong Asia is thus able to align its strategies with the trends surrounding climate change while offering innovative solutions to remain competitive in its key markets.

Source: Hong Leong Asia

CHAPTER 3

THE EMERGING ROLE OF ACCOUNTANCY AND FINANCE PROFESSIONALS IN DRIVING SUSTAINABILITY

The study found that there are growing expectations for accountancy and finance professionals to assume more high-value strategic roles to meet key sustainability needs in the manufacturing sector. Some 55% of manufacturing companies have plans to start or have started collecting non-financial data for sustainability reporting. Among them, 90% find that it has prompted their accounting and finance function to engage in higher-level tasks that align with sustainability objectives. Examples of higher-level tasks include keeping abreast of sustainability trends and needs to respond to emerging sustainability challenges effectively, improving energy efficiency to optimise resource utilisation and reduce environmental impacts, and exploring sustainable alternatives to make informed decisions and adopt more eco-friendly practices.

Hence, it is likely that accountancy and finance professionals will play key roles in the 10 skill sets identified from existing and emerging areas of sustainability. About 52% of companies in the study have already taken the initiative to provide sustainability-related training to their employees, indicating a growing recognition of the importance of equipping employees with the knowledge and skills to navigate the sustainability space.

HOW MANUFACTURING COMPANIES ACQUIRE SUSTAINABILITY-RELATED SKILLS

In term of how manufacturing companies in this study attain sustainability-related skills and competencies, the most common channel is through external training (35%), followed by in-house training (33%). As shown in Chart 6, a smaller number of companies (12%) have started to hire sustainability employees from the open market, while an equal number (12%) are outsourcing the work tasks. The figures reflect a growing demand for sustainability-related training services and workers.

How does your company acquire sustainability-related skills and competencies?

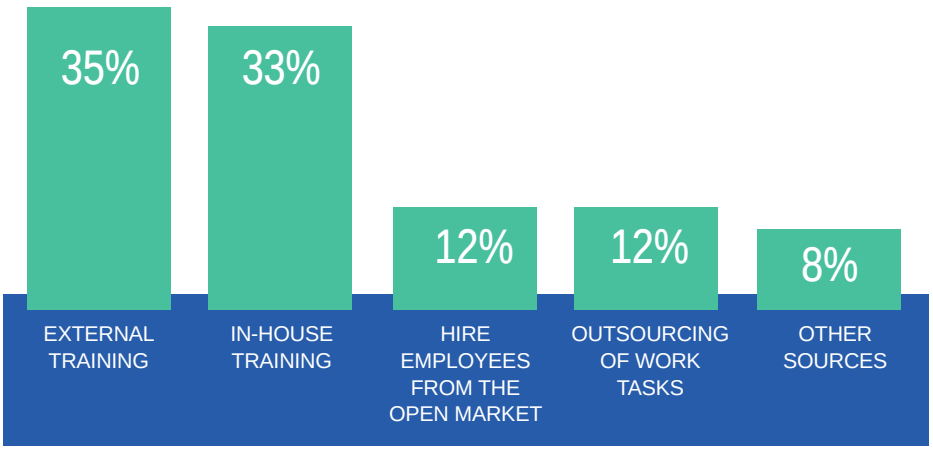


CHART 6 | WAYS TO ACQUIRE SUSTAINABILITY-RELATED SKILLS AND COMPETENCIES

DRIVING SUSTAINABILITY TRANSFORMATION

Sustainability is a broad and versatile area that requires involvement from all segments of an organisation, both vertically and laterally. The sustainability landscape is rapidly evolving, and the financial impacts of sustainability-related risks and opportunities are becoming increasingly evident. Regulators and investors around the world are demanding more information from companies on how these risks and opportunities will impact their bottom line, and what they are doing to address them. Due to this growing focus on the financial implications of sustainability-related issues, accountancy and finance professionals should take centre stage and champion their organisations' sustainability transformation.

Why accountancy and finance professionals should champion sustainability:

1. **Financial literacy:** Sustainability-related issues often come with financial implications. For example, sustainability initiatives such as solar panel installation would require planning and investments. Once installed, they would bring eventual financial benefits in the form of cost savings. Sustainability-related risks such as disrupted supply chains or operations due to extreme weather events may also impact an organisation's financial performance. To fully understand and track these financial implications, accountancy and finance professionals must collaborate closely with other business units within the organisation to evaluate and document the associated risks, impacts, and opportunities. Given the accountancy and finance professionals' expertise in financial reporting, they should champion the organisation's sustainability reporting in the evolving reporting landscape.

2. **Compliance and reporting:** There is a growing demand for sustainability reporting driven by enhanced regulatory requirements and investor requests. This is steering ongoing global efforts to bridge the gap between sustainability reporting and financial reporting. For example, the ISSB, which was established by the International Financial Reporting Standards (IFRS) Foundation, released its first two standards in June 2023. These new standards require companies to disclose how sustainability risks and opportunities impact their financial statements. In Singapore, a public consultation[3] was launched by the Accounting and Corporate Regulatory Authority (ACRA) and Singapore Exchange Regulation (SGX RegCo) in July 2023, recommending mandates on the ISSB-aligned disclosures for listed and certain non-listed companies. With sustainability reporting standards becoming increasingly robust and aligned to financial reporting requirements, the transferable skill sets (to be discussed in Chapter 4) and training of accountancy and finance professionals will equip them well to navigate this evolving landscape and ensure compliance to emerging jurisdictional requirements.

How accountancy and finance professionals can champion the organisation's sustainability efforts:

1. **Define clear roles and responsibilities:** Sustainability impacts all areas of an organisation, and well-defined roles and responsibilities are essential for a successful sustainability transformation. For example, sustainability-related data originate from a range of sources, especially for manufacturing companies with extensive value chains. To collect sustainability data for performance assessments and reporting, a clear allocation of roles and responsibilities is required, to ensure the data collected are complete, consistent and of high quality.

   As sustainability reporting increasingly comes under the purview of accountancy and finance professionals, they are in a good position to help define roles and responsibilities across the organisation.

2. **Undergo training and development:** Most accountancy and finance professionals are new to the concept of sustainability. However,

they possess key skill sets that are transferable to their organisation's sustainability efforts, such as data management, reporting, internal auditing, etc. Training and development to bridge the gap will be crucial to enable accountancy and finance professionals to champion an organisation's sustainability efforts. Suggested skill sets related to sustainability for accountancy and finance professionals will be discussed further in following sections.

What accountancy and finance professionals should do to champion their organisation's sustainability efforts:

1. **Drive sustainability integration and decision making:** As mentioned above, accountancy and finance professionals are well placed to assess and document the financial implications of sustainability-related initiatives, risks, and opportunities. This information should support decision making and be integrated into various organisational processes, such as financial planning, budgeting, costing, risk management, and strategic planning. Finance functions should champion this effort through data collection, analysis and reporting.

2. **Reporting and compliance:** With the ongoing efforts to bridge the gap between financial reporting and sustainability reporting, accountancy and finance professionals should champion their organisation's sustainability reporting efforts to ensure full compliance with evolving regulatory requirements. With regulators in Singapore

BOX STORY

Tulyā – Helping Clients Materialise Sustainability

Tulyā is a sustainability consultancy company dedicated to helping businesses measure and understand the impact that environmental and social factors have on their ability to create value. In particular, it helps SMEs address their first-mile challenges when they embark on their sustainability transformation.

The company realises that many SMEs do not have an understanding of what sustainability is. It strives to help them understand the main purpose of a sustainability strategy for them, what will impact them financially, what their key stakeholders need from them, and what will make a difference for them.

Tulyā observes that more MNCs and key stakeholders are expecting companies in the whole value chain to report emissions according to the Greenhouse Gas Protocol, to facilitate comparisons. They want numbers, not "fluffy" reports. To this end, the company is of the view that accountancy and finance professionals play a really important role as they know how to analyse data, and how to use the "language of numbers". Tulyā believes that this will be the future of sustainability reporting – reporting numbers with narratives, so that users of a sustainability report will understand what the company is, and how it is performing in relation to other companies.

eyeing the ISSB standards, organisations will rely on the finance function to understand and meet the emerging requirements.

3. **Enable collaboration to achieve sustainability objectives:** As sustainability data tend to flow from various departments of the organisation to the finance function, accountancy and finance professionals will play a key role in facilitating collaboration throughout the organisation. Sustainability transformation requires the involvement and participation of the entire organisation and, as the gatekeeper of sustainability information, accounting and finance teams play a key role in assessing and disseminating information with the relevant teams to understand sustainability issues, objectives and performance.

In the following section, we explore some of the key skill sets needed for accountancy and finance professionals to drive their organisations' sustainability efforts.

CHAPTER 4

SKILL SETS TO ENABLE ACCOUNTANCY AND FINANCE PROFESSIONALS TO CHAMPION THE SUSTAINABILITY JOURNEY

The research team distilled 10 skill sets from the existing and emerging areas of focus on sustainability in the manufacturing sector. Besides the skills required for sustainability transformation within their organisation, two additional skill sets were identified – namely stakeholder and community engagement and natural capital management. Both skill sets are broad generic skills required for sustainability transformation.

To keep up with the rapidly evolving corporate sustainability landscape, companies must ensure that relevant teams are equipped with the necessary competencies to champion their organisations' sustainability efforts. Respondents in the study were asked to rate the competency level of their accounting and finance function vis-à-vis various sustainability-related skill sets (Table 2). Four levels of skills maturity were established:

Among the respondents in the study, nearly half (42%) reported that they only have "elementary" skills across all-sustainability-related skill sets 27%, reported that they have "emerging" skills, 15% reported having acquired "strategic" skills, and 16% reported having "leading skills" (Chart 7). There is still room for manufacturing companies to elevate their skills from "elementary" and "emerging" to "strategic" and "leading".

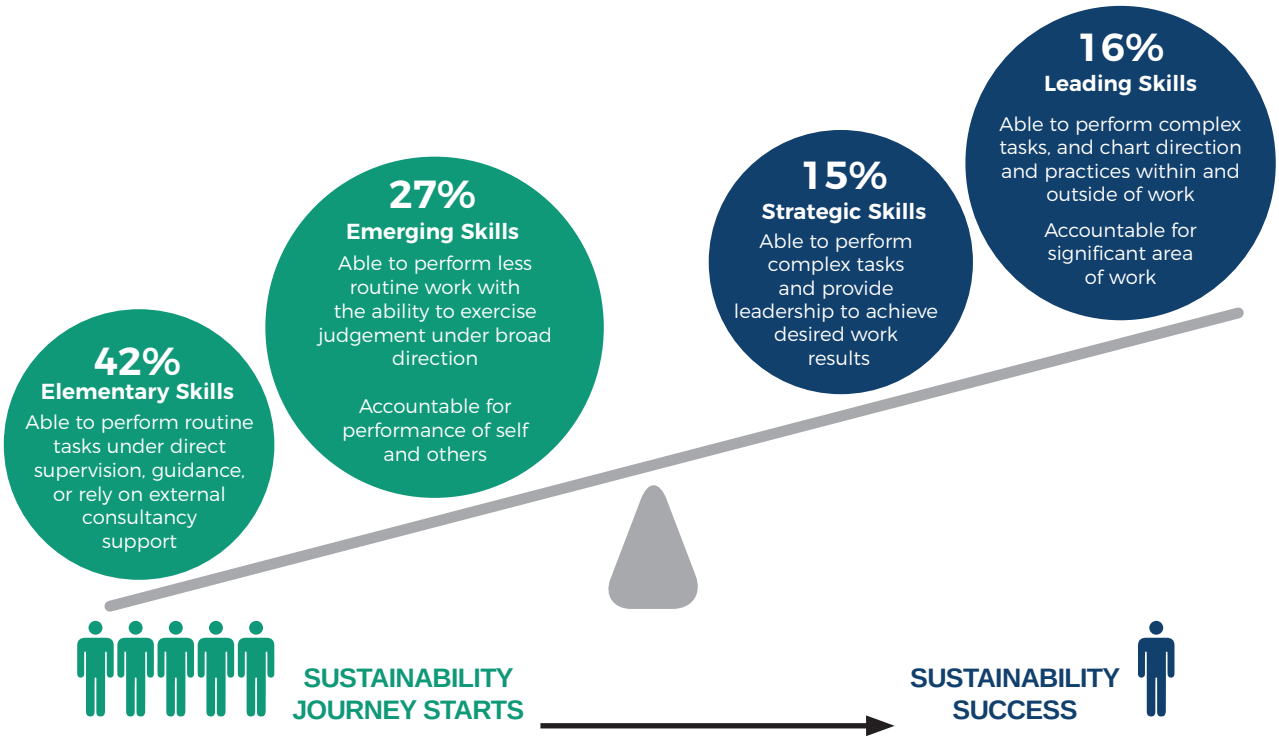


CHART 7 | SKILLS MATURITY LEVELS

In the following section, we elaborate on why these sustainability-related skill sets are important for Singapore's manufacturing sector, and why accountancy and finance professionals are the best people to spearhead the sustainability efforts of their organisations. By acquiring adequate skills in these areas, the accounting and finance functions can better prepare themselves for the emerging role and growing expectations on their teams in relation to their corporate sustainability efforts. With a mature competency level across these skill sets, finance functions can champion and progress their organisations' phase of development from sustainability ambition to sustainability action.

ACCOUNTANCY AND FINANCE PROFESSIONALS – HELPING TO BUILD A ROBUST SUSTAINABILITY STRATEGY

It is important to recognise that corporate sustainability is a journey, and it takes time for an organisation to develop and implement a robust sustainability strategy. Accountancy and finance professionals will play an increasingly important role throughout the organisation's sustainability journey from the elementary to advanced levels. Organisations should prepare them for the emerging sustainability landscape

STAKEHOLDER AND COMMUNITY ENGAGEMENT

Stakeholder and community engagement refers to the organisation's engagement and communication with a diverse range of internal and external stakeholders, with the objective to gain an understanding of their sustainability expectations and concerns.

WHY THE SKILL IS IMPORTANT

Feedback from stakeholders is essential in facilitating materiality assessments, formulating an effective sustainability strategy, and shaping sustainability reporting practices. For example, different stakeholders will have different priorities and concerns. This will in turn influence what sustainability data to collect, and which reporting standards and frameworks to disclose against.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

While the accounting and finance function may not necessarily be tasked with conducting the stakeholder engagement itself, it plays an important role in the planning and preparation stage. For many organisations, stakeholder engagement and materiality assessments are only conducted periodically, often with multi-year intervals. It is therefore critical that the appropriate stakeholders are engaged through suitable channels (for example, interviews, surveys, etc) so that the accounting and finance function can obtain the data needed to complete its various sustainability initiatives, such as risk assessments and sustainability reporting. Since the accounting and finance function has a deep understanding of the data requirements as well as reporting formats, it should participate in the planning phase, to ensure the data collected are relevant and useful.

CIRCULAR ECONOMY & RESOURCE EFFICIENCY

Circular economy & resource efficiency refers to sustainable resource management that aims to minimise waste, improve energy and water efficiency, and promote the use of recycled and recyclable materials. It involves designing systems and processes in a way that reduces the consumption of raw materials and natural resources.

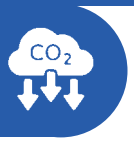
WHY THE SKILL IS IMPORTANT

Resource scarcity is a growing area of concern due to the depletion of finite natural resources and global population growth. With The Singapore Green Plan 2030, which aims to reduce waste to landfill per capita by 30% by 2030, the circular economy has become a key initiative in achieving this goal. Organisations that can operate efficiently with fewer resources are better positioned for long-term viability and resilience. Moreover, efficient resource management can lead to significant cost savings, which in turn paves the way to explore green financing options, such as green bonds or sustainability-linked loans to fund resource-efficient projects.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accountancy and finance professionals are well placed to coordinate the identification of organisations' current resource efficiency performance. This can be achieved by developing financial performance metrics to effectively track cost savings and resource utilisation rates, for example. Furthermore, cost-benefit analyses can be carried out to showcase the financial benefits of new manufacturing practices. With insightful data and reports, organisations can make an informed decision and align their operations with their sustainability strategy.

CARBON AND DECARBONISATION STRATEGIES MANAGEMENT



Carbon and decarbonisation strategies management refers to the planning, implementation and oversight of sustainability initiatives to achieve a lower carbon footprint. Among other things, decarbonisation strategies promote the transition to renewable resources including raw materials, and encourage the development of more sustainable operations and product offerings.

WHY THE SKILL IS IMPORTANT

Carbon and decarbonisation strategy management skills are critical to sustainability as they enable organisations to navigate the complexities of GHG emissions reductions, regulations, resource allocation, and risk management and, ultimately, drive meaningful progress towards sustainability targets. Such skills are particularly important as addressing and achieving GHG emissions reductions is increasingly becoming a substantial component of environmental compliance.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

It is important to integrate decarbonisation initiatives into financial planning, financial analysis and budgeting, to enable investments in low-carbon technologies and initiatives, and to support sustainability decision making. This integration is made possible with the support of accountancy and finance professionals with the necessary skill sets to carry out such assessments. Accountancy and finance professionals are also skilled in assessing financial risks and tax implications, which allow them to quantify the risks associated with carbon-intensive activities, such as regulatory fines, carbon pricing, and reputational damage. This understanding of risk can help organisations identify and prioritise key areas for their decarbonisation efforts.

SUSTAINABILITY DATA MANAGEMENT AND IMPACT MEASUREMENT

Sustainability data management and impact measurement refers to the systematic data collection, data organisation, and generation of meaningful reports related to an organisation's sustainability performance and efforts. Examples of typical data points relevant to the manufacturing sector include resource usage, waste reduction, production optimisation and carbon emissions.

WHY THE SKILL IS IMPORTANT

We cannot manage what we do not measure. Thus, data-driven insights are critical for making informed strategic decisions related to sustainability goals and targets. Impact measurement helps organisations identify areas where they can achieve the greatest impact and allocate resources effectively to achieve their sustainability objectives.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accountancy and finance professionals possess a strong understanding of financial transactions, financial metrics, data capture, data analysis and reporting. The existing financial data analytics tools and system can be leveraged to monitor the performance of sustainability efforts while implementing rigorous data governance processes, thus reducing the risk of errors and discrepancies in sustainability reporting. With their expertise in financial data management, accountancy and finance professionals can unleash the potential of the prevailing system by embedding sustainability metrics into existing processes, or enable the system to serve as a prototype for designing a new sustainability data management system.

SUSTAINABILITY REPORTING

Sustainability reporting refers to the publication of an organisation's sustainability governance, strategies, impacts, targets, metrics and performances in accordance with applicable sustainability standards and local requirements. This reporting fosters transparency and accountability regarding the organisation's sustainability practices and initiatives.

WHY THE SKILL IS IMPORTANT

Sustainability reporting skills are crucial for an organisation to identify and assess sustainability-related risks, opportunities and performance. Sustainability reporting is becoming increasingly robust and regulatory mandates are becoming more commonplace, even for non-listed companies. This will require companies to ramp up their sustainability reporting practices, to avoid falling behind the curve.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

With robust expertise in data management, analysis and reporting, accounting and finance functions can act as stewards of sustainability-related disclosures. Sustainability-related data should flow from various business units to accounting and finance for consolidation and reporting. This is crucial for ensuring connectivity between sustainability reporting and financial reporting. Moreover, as accountancy and finance professionals are well versed in compliance requirements, they will be crucial for helping organisations navigate the fast-changing landscape of sustainability reporting standards and regulations.

SUSTAINABILITY RISK MANAGEMENT

Sustainability risk management refers to the process of identifying, assessing and mitigating sustainability-related risks that may financially and/or operationally impact an organisation in the short, medium, or long time horizons. Examples of risks can be the physical impacts due to extreme weather events like storms and flooding, heat waves and droughts, etc, or transitional risks such as changing customer preferences or stricter regulatory compliance requirements.

WHY THE SKILL IS IMPORTANT

Sustainability is becoming a key competitive factor in many industries, and organisations with strong sustainability risk management skills are better positioned to capitalise on opportunities and mitigate risks.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accountancy and finance professionals can contribute their financial expertise to assess the potential financial impacts of sustainability risks, and demonstrate how these risks may affect the overall financial performance. This helps organisations align their sustainability strategies with their broader business goals. As accountancy and finance professionals have a deep understanding of financial modelling, they can carry out scenario analysis to evaluate the potential financial impacts of sustainability risk. By assigning a financial value to a risk or opportunity, companies can better allocate their resources in order to mitigate the risk or capitalise on the opportunity.

SUSTAINABLE FINANCE

Sustainable finance refers to various types of instruments, for example, loans and bonds, that fund sustainability-related projects or objectives, or instruments that tie the achievement of predetermined sustainability outcomes to the terms of financial funding related to sustainability projects or outcomes. Examples of common sustainable finance instruments in Singapore are green loans, sustainability-linked loans, green bonds, and others.

WHY THE SKILL IS IMPORTANT

Sustainable finance is rapidly growing and experiencing increasing global demand. In Southeast Asia, Singapore is the leader in sustainable finance issuance. One attractive feature of some sustainable finance products is the potential lower borrowing rate, which is typically contingent upon the robustness of the borrower's sustainability practices and reporting practice. Competency in sustainable finance can allow companies to access and raise more capital at a lower cost.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accounting and finance functions are important for sustainable finance. For example, the treasury function is typically led and managed by accounting and finance functions. Their expertise on fund sourcing makes them well suited to identify, explore and secure various sustainable finance instruments. These finance instruments come with embedded requirements and conditions, such as the use of proceeds and performance indicators, necessitating careful examination to prevent any risk of non-compliance. Accounting and finance functions play a key role in actively monitoring, assessing and reporting on these performance indicators, as well as collaborating closely with the relevant business units.

INTERNAL AUDIT ON SUSTAINABILITY GOVERNANCE

Internal audit on sustainability governance refers to an independent and objective examination and evaluation of an organisation's internal controls relating to sustainability, including governance structures and processes.

WHY THE SKILL IS IMPORTANT

Internal audit skills are required to evaluate the effectiveness and efficiency of the designed internal controls for sustainability. The scope of internal audits encompasses various areas spanning compliance, environmental concerns, financial matters, operational procedures and more. The outcomes of internal audits are instrumental in driving enhancements and improvements for an organisation.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Internal audit is an integral part of the core responsibilities of accountancy and finance professionals. It is within their purview to conduct risk assessments and establish objectives for internal audits. Through these efforts, they can design a testing plan to evaluate the sustainability reporting process, with a focus on material sustainability factors. The internal audit serves as an effective means to identify gaps in the sustainability reporting process in relation to both regulatory requirements and stakeholder expectations.

CLIMATE AND NATURE FINANCIAL IMPLICATION QUANTIFICATION

Climate and nature financial implication quantification refers to the assessment and quantification of financial risks and opportunities associated with climate change and nature-related factors.

WHY THE SKILL IS IMPORTANT

This quantification process is equally important for sustainability reporting and financial reporting. For example, if an extreme weather event causes operational disruptions and damage to physical assets, financial quantification would be necessary to interpret their impacts in financial terms. This skill serves the dual purpose of facilitating disclosure in sustainability reporting and recording the impacts in financial reporting. Furthermore, as mentioned under the Sustainability Risk Management section, quantifying potential future risks and opportunities will enable companies to prioritise and plan their responses in a more accurate manner.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accounting and finance functions, the experts in accounting, should champion the assessment and quantification of financial implications, including those stemming from climate and nature factors. Accountancy and finance professionals also possess the competency to design financial models for evaluating the long-term financial consequences of these factors. This will support decision making, inform investment decisions, and enable the development of strategies for mitigating risks related to climate and nature.

NATURAL CAPITAL MANAGEMENT

Natural capital management refers to the sustainable management, strategies and policies in response to finite natural capital and ecosystems, with a primary goal of mitigating the impacts resulting from business operations.

WHY THE SKILL IS IMPORTANT

The manufacturing sector relies on natural resources such as water, energy and raw materials. This sector plays a pivotal role in optimising and “greening” the utilisation of natural resources.

WHY ACCOUNTANCY AND FINANCE PROFESSIONALS ARE WELL PLACED TO CHAMPION THIS SUSTAINABILITY AREA

Accounting and finance functions can offer valuable support by providing insightful financial data and reports that reflect the current utilisation rate of natural resources. Additionally, conducting a cost-and-benefit analysis on investments in energy-efficient technologies is a key lever in gaining the internal buy-in for the transformation of manufacturing operations. Once market research is crystallised into a plan, accounting and finance functions are well placed to integrate these initiatives into financial planning, budgeting, and performance metrics.

ISCA'S SUSTAINABILITY TRAINING PROGRAMMES, CERTIFICATIONS AND EVENTS

If you are an accountancy and finance professional seeking sustainability-related skills, you can find relevant training opportunities at ISCA.

ISCA SUSTAINABILITY COURSES

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CHAPTER 5

RECOMMENDATIONS FOR SINGAPORE MANUFACTURING COMPANIES UNDERTAKING SUSTAINABILITY TRANSFORMATION

We have five recommendations for Singapore manufacturing companies planning to embark on their sustainability transformation journey.

RECOMMENDATION 1: CREATE A C-SUITE POSITION FOR THE CHIEF FINANCIAL AND SUSTAINABILITY OFFICER

In 2022, ISCA, together with Ernst & Young Advisory Pte Ltd, SMU, and Singapore Accountancy Commission, conducted a research study titled *Sustainability: Jobs and Skills for the Accountancy Profession*; which found that accountancy and finance professionals play a leading role in sustainability transition for business and finance. The study also identified the emergence of a new role, that of Chief Financial and Sustainability Officer (CFSO), which combines the responsibilities traditionally undertaken by the Chief Financial Officer and Chief Sustainability Officer.

The CFSO is usually responsible for leading finance partnering on sustainability issues and reporting. Integrating sustainability into a business requires intimate and in-depth finance knowledge, which puts accountancy and finance professionals in an advantageous position to lead their organisation's sustainability agenda and take on the role of CFSO.

The CFSO is also crucial for translating sustainability measurements and data into the organisation's financial bottom line.

BOX STORY

Chief Financial and Sustainability Officer at Lodging, CapitaLand Investment

Ms Beh Siew Kim has been Chief Financial and Sustainability Officer at CapitaLand Investment, Lodging since August 2022. In an interview with Hotel Investment Today, she explained that "CFOs (Chief Financial Officers) are involved in most business decision making and therefore work with more of the leaders in the organisations. The voice and authority of a CFO helps in messaging the importance of sustainability at the leadership level. This creates an overarching emphasis and priority for sustainability". In addition, this combination helps drives the agenda in organisations and has prevented sustainability from becoming a subset of other agendas.

Ms Beh also noted that the CFSO role helps solidify the role of sustainability in an organisation. CFO's today are visionaries who are concerned with creating future values via strategic decision making aligned with ESG. It provides a different lens on sustainability and moves away from the mindset of thinking about sustainability as a cost rather than a business imperative.

Source: Ms Beh Siew Kim

RECOMMENDATION 2: INTEGRATING SUSTAINABILITY CONSIDERATIONS INTO CURRENT OPERATIONS

As the Chinese proverb goes, "A journey of a thousand miles begins with a single step." For companies with limited financial, human and other resources, especially the SMEs, it is important to take the first step to embark on the sustainability journey. A good first step could be the collection of sustainability-related data, which will enable companies to have a better sense of their sustainability risks and opportunities.

For example, companies with heavy energy consumption may want to find new ways to reduce energy usage. This could be done through better tracking of their energy consumption, such as from the use of diesel and electricity in their factory facilities. Companies may also want to explore alternative or renewable energy sources such as the solar panel system as well as electricity-powered machinery and vehicles. From this study, we found that only about 30% of the companies have indicated that they have begun sourcing for more energy-efficient opportunities.

On the same note, companies could start to adopt the circular economy mindset by searching for more sustainable building and packaging materials and products. The reduce-reuse-recycle concept could be embedded into the companies' business performance measures. In the survey, only about 13% of companies indicated that they have started to invest in more sustainable building materials, although more than half (56%) have plans to do so in the next 1–3 years. The research found that some companies have begun to create more efficient processes, which are alternative ways to reduce their overall carbon footprint.

All these efforts would ultimately translate into direct impacts on the financial bottom line. Thus, it is crucial to have metrics to track the impact of the sustainability efforts.

BOX STORY

Packaging Partnership Programme

To support companies in their journey towards adopting sustainable packaging waste management practices, SMF and NEA have partnered together to introduce a new industry-led programme called the Packaging Partnership Programme (PPP).

The objectives of the PPP are to:

- Build industry capability in sustainable packaging waste management and in fulfilling current and future regulatory requirements
- Have a unified voice for SMEs and MNCs across all industries for current and future regulatory requirements
- Steer, advocate, and facilitate the adoption of sustainable packaging practices among companies

The PPP aims to implement outreach initiatives, and share knowledge and industry best practices through workshops and training for stakeholders of the various relevant industries (for example, manufacturers, importers, service providers) in Singapore, to familiarise them with the MPR requirement and to build industry capability in sustainable packaging waste management.

Source: Singapore Manufacturing Federation

BOX STORY

Wanin Industries – Striking a Balance

Wanin Industries is a Singapore bottled water, water dispensing and purification system provider. As an SME, it is essential to strike a balance between cost and sustainability considerations. The company is currently exploring ways to integrate sustainability into its operations, including in the making of procurement decisions.

Wanin Industries, a merit award winner in the 3R Packaging Award programme organised by SMF, has been showcasing its cost savings through its sustainability efforts since 2010. For example, the company reduced the weight of the polyethylene (PE) caps on its plastic bottles packaging by more than 20% per piece; this has resulted in a decrease of an estimated 10.8 tonnes of plastic packaging waste annually.

As a member of the the Asia Middle East Bottled Water Association (ABWA), Wanin Industries has heeded recommendations to turn to recyclable materials. Not only has the use of sustainability materials helped to reduce costs, their use has also helped the company to enter new markets and acquire new revenue streams. The positive outcomes were instrumental in convincing internal stakeholders of the importance of sustainability initiatives.

Source: Wanin Industries Pte Ltd

RECOMMENDATION 3: LEVERAGING INTERNATIONAL/LOCAL COMMUNITIES OF PRACTICE TO STAY INFORMED ON SUSTAINABILITY MATTERS

Companies with more resources may begin their comprehensive evaluation of of their current sustainability practices, with the objective to design a systematic and strategic roadmap for their sustainability transformation based on what they are presently doing.

On the other hand, companies with less resources can consider plugging into sustainability communities to learn about best practices and emerging standards. For example, company CEOs may wish to join the United Nations (UN) Global Compact, a voluntary

Green Compass™

Green Compass™ is an environmental sustainability assessment and strategic roadmapping tool developed by A*STAR's Singapore Institute of Manufacturing Technology (SIMTech). It helps companies to become more environmentally sustainable by better managing their carbon emissions, energy, water and waste impacts, as well as chart strategic roadmaps for their transformation based on their current environmental sustainability levels. This is a useful initiative by the Singapore government, and is supported by SkillsFuture Singapore.

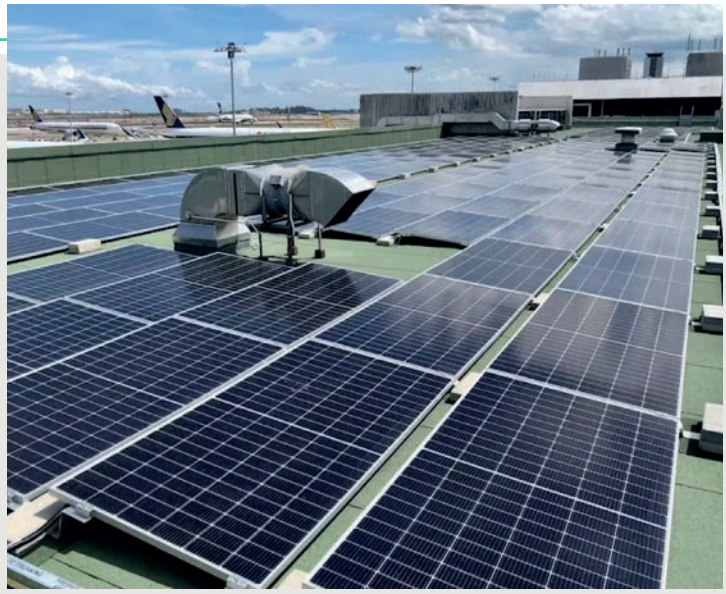
Source: A*STAR website, accessed 23 Oct 2023

BOX STORY

Cyclect Sustainability Disruptor

Cyclect is an engineering solutions provider specialising in sustainable and innovative solutions for the industrial, infrastructure and marine sectors. It offers services like waste-to-energy plants, solar rooftop installations, and co-generation solutions for manufacturing facilities. The company prides itself as a disruptor in sustainability practices, having developed its own intellectual property related to waste-to-energy solutions.

To identify sustainability opportunities and risks, Cyclect works with diverse stakeholders regarding its sustainability concerns. It adopts a ground-up approach to support its sustainability efforts in the business ecosystem. The company conducts regular assessments to identify sustainability risks related to the operations, including analyses of the environmental and social impacts of its products and operations, to identify improvement areas. It has also formed dedicated teams to integrate sustainability considerations into decision making.



As Cyclect is plugged into communities – of practice and voluntary associations, it stays informed about industry best practices to identify sustainability opportunities, such as aligning its policies with the UN 17 Sustainable Development Goals. Where practicable, the company collaborates with external organisations to gain relevant insights, including adapting to the evolving sustainability regulations.

Cyclect also uses a sustainability scorecard riding on the Ecovadis platform. The scorecard is built on international sustainability standards to illustrate performance across 21 indicators under four themes – environment, labour & human rights, ethics, and sustainable procurement. This provides a standardised methodology for assessing the sustainability performance of participating companies. By engaging in this community voluntarily, Cyclect is able to provide assurance to its partners and consumers that it is serious about sustainability and is free from greenwashing tactics.

This scorecard reporting also consolidates data from various departments including procurement, finance, human resources and emissions. By integrating sustainability into its accounting and finance function, Cyclect is able to optimise financial decision making.

Source: Cyclect

initiative based on CEO commitments to implement universal sustainability principles and to take steps to support the UN goals. Smaller companies can also participate actively in talks and webinars to gain insights into the tools and resources that drive change. This would help companies acquire a sense of the global sustainability discussions, the industry's baseline of sustainability efforts and initiatives, sustainability innovations by market leaders, and investment required for new processes, materials and/or technology.

RECOMMENDATION 4: ASSESSING UPSTREAM OR DOWNSTREAM SUPPLY CHAIN OPPORTUNITIES AND RISKS

Larger companies have started to green their supply chains. They are increasingly expecting their suppliers to adopt sustainability measures, such as using green energy and producing certificates of carbon emissions reduction. Some larger companies are also providing help and incentives to motivate their suppliers, especially small and medium-sized suppliers, to adopt more sustainability practices. This allows larger companies to be assured that their suppliers are complying fully with their sustainability requirements.

Suppliers in the ecosystem should use this opportunity to develop more sustainable operations with the aim to produce more sustainable materials and products. Those which can produce evidence of their sustainability practices may also gain more customers. Herein exists a win-win situation for both larger companies and suppliers that will also lower emissions.

For example, larger companies could periodically send surveys to their suppliers to assess their sustainability goals and targets. Based on their responses, a strategy could be developed to help suppliers reduce GHG emissions. The survey may also ask about the challenges and limitations faced by suppliers, in terms of switching to a sustainable trading model and creating a sustainable value chain. Larger companies can then help their suppliers to figure out what they can and cannot do, thus supporting the suppliers towards a smoother sustainability transformation journey.

In anticipation of these changes, it is recommended that smaller companies adopt international sustainability standards or best practices. There are various regulations and guidelines in the sustainability space, including sustainability and climate reporting standards from the ISSB, European Financial Reporting Advisory Group and CDP.

There are also widely accepted industry-specific guidelines and standards. These include the environmental responsibility policy from the OECD Extended Producer Responsibility, forestry stewardship certification from the Forest Stewardship Council®, and energy management standard by the ISO 50001.

BOX STORY

DHL – Driven by Data

DHL is a leading global brand in the logistics industry. Its divisions offer an unrivalled portfolio of logistics services ranging from national and international parcel delivery, e-commerce shipping and fulfilment solutions, international express, road, air and ocean transport to industrial supply chain management. In Singapore, DHL is also part of many manufacturing companies' supply chain ecosystem.

DHL is a green logistics pioneer. In 2008, it became the first logistics company to commit to a measurable carbon efficiency target: to improve carbon efficiency by 30% (versus 2007) by the year 2021. This goal was achieved four years ahead of schedule in 2016.

DHL's focus on sustainability involves accurate carbon footprint measurement and an efficiency target to achieve net-zero emissions logistics by the year 2050. Data-backed approaches showed that carbon efficiency equated to cost efficiency, much like how the shift to LED lights led to a decrease in electricity consumption and resulted in cost savings.

DHL employs its own comprehensive system to collect data for Scope 1 and Scope 2 emissions in accordance with established standards. For Scope 3 emissions, especially those relating to transportation, its systems also capture data, such as distance travelled and fuel consumed, from both its operations and those of its subcontractors. Given that transportation makes up the bulk of its overall emissions, DHL has established robust systems for tracking aviation emissions, aggregated from reliable sources as well as from public engagements and subscription data sources, to ensure greater accuracy.

DHL's approach extends to ground-level data collection involving details like fuel consumption, vehicle type and travel distance. To simplify data collection, it has established an integrated system that captures data from operations, including non-financial information,

through scanners used in daily operations and other sources; such a system minimises manual input and ensures high data accuracy. The data are processed using its SAP system, enabling the generation of standardised monthly reports for management meetings. DHL's sustainability reporting encompasses various aspects, including Environment and Social Governance (ESG) data and PSC (people, service and cost) data, which are presented at management meetings.

The comprehensive data reflect the company's commitment to thorough reporting. DHL's longstanding dedication to sustainability over 15 years has cultivated customer trust and recognition, and the company is considered a pioneer in this area.

Customers feel empowered as well, as they are able to comprehend their emissions when using DHL's services. By tracking important metrics such as CO2 emissions by distance and the amount of fuel/electricity used over that same distance, carbon emissions can be attributed to individual shipments using precise algorithms. The granular approach extends to customers' shipments, enabling emissions allocation based on factors like truck emissions and

types of shipment. With DHL's latest GoGreen Plus offering, which helps to reduce shipment-associated carbon emissions through the use of sustainable aviation fuel, DHL's customers are now able to target Scope 3 emissions in their value chain as well.

DHL believes that accountancy and finance personnel need to be familiar with emerging sustainability standards and protocols, emissions associated with various fuels, grid emissions, the consequences of transitioning from coal to gas, social and governance factors, as well as cybersecurity and compliance. The company includes the finance team in carbon accounting by involving them in ESG reporting. To ensure accurate and anomaly free data, the finance team understands the sustainability KPIs and data drivers.

Apart from the accountancy and finance team, DHL engages all its employees through its Certified Go Green Specialist (CGGS) Program which was developed to equip employees with tools to enable them to become experts in green logistics and contribute to DHL Group's net-zero emissions mission.

Source: DHL Express Singapore

RECOMMENDATION 5: DISCOVERING NEW BUSINESS NICHES

As more companies embark on their sustainability transformation journey, there are new business opportunities emerging. Some emerging areas include providing advisory services to help companies with their sustainability transformation, creating new sustainable materials, investing in innovation to create eco-friendly alternatives to existing products, optimising production processes to reduce waste and energy consumption, developing sustainable sources of raw materials, and sourcing of sustainable raw materials.

These efforts can lead to the creation of innovative, marketable products that cater to the growing demand for sustainable solutions. As consumers become more conscious of environmental issues, companies that prioritise sustainability may find themselves with increased market share and revenue growth. Hence companies should actively identify these new business niches to help with their own sustainability transformation.

BOX STORY

Regentech – Helping Clients Transform from Non-recyclable to Recyclable Materials

Regentech is a green solutions provider that helps clients to make a transformation from non-recyclable to recyclable materials. It has developed a coating that adds a barrier function to mono materials. While the company does not make recyclable packaging per se, the coating helps to promote mono-material packaging with barrier functions, making such packaging a viable recyclable option.

To become more environmentally friendly, it has plans to move towards a localised supply chain to reduce transport-related emissions and optimise its manufacturing processes. Sustainability is a core selling point for its products, and the company strives to integrate environmental considerations into the manufacturing processes.

Large companies exporting to Europe or America, and those with an international presence, need to align with the global directives on packaging. Large companies usually have ESG goals, and they require compliance from their suppliers, including the smaller companies. This is where Regentech has identified a growing niche, as it can help SMEs meet the requirements set by the larger brand owners. The company has a very positive outlook of the market as more and more SMEs embark on their sustainability transformation journey.

Source: Regentech Pte Ltd

BOX STORY

BioPak – Sustainability as a Business

Keeping sustainability at the core of its mission and advocating against conventional plastic use globally, BioPak disrupts the current take-make-waste model and leads the way towards a truly circular economy. BioPak, a certified B Corporation, specialises in food packaging solutions that are better for the planet as they are made from plant and not fossil fuel. Since the company's inception in 2006, it has become a globally recognised brand loved by businesses and consumers across Australia, New Zealand, the UK, the US and Singapore.

BioPak sources renewable and innovative materials that are processed responsibly in environmentally certified manufacturing facilities. The circle is completed at final disposal, where it considers composting as the best end-of-life option for its foodservice packaging. BioPak's portfolio features both industrial- and home-compostable certified products.

In 2018, BioPak launched the BioPak Compost Service, which evolved in 2021 into Compost Connect, a not-for-profit initiative that connects businesses to compost pick-up services. The company is committed to diverting food waste and compostable packaging from the landfill and incinerator, by making compost facilities more accessible across Australia, New Zealand, and the UK. It is looking to extend the composting programme to Singapore, to help reduce CO2 emissions produced by food waste incineration.

Currently, it is testing an in-house industrial composting machinery, a WasteMaster, with a large Singaporean institution to support its mission to create a world with zero waste, and find the best end-of-life for packaging in the region.

BioPak provides its customers with data on the CO2 emissions associated with its products. This not only helps educate the customers on climate-related metrics, it allows them to make informed purchasing decisions. Simultaneously, such initiatives are pushing the rest of the packaging industry to follow suit and become more transparent about their products.

BioPak has found that despite having packaging that costs 10–15% more than traditional plastic options, there has been a mindset shift among its customers. Many businesses are open to choosing sustainable solutions and paying a premium, leading to BioPak's steady growth.

Source: BioPak Pte Ltd

BOX STORY

Extended Producer Responsibility in Singapore for Food and Beverages

The initial phase of the EPR strategy for managing packaging waste in Singapore is exemplified by the beverage container return programme. EPR, in essence, is a framework where producers, such as manufacturers and importers, are made accountable for the retrieval and proper disposal of the products they introduce to the market.

In the case of the beverage industry, beverage producers will assume responsibility for and oversee the collection and recycling of used beverage containers. All producers of pre-packaged beverages distributing their products in Singapore will be obligated to participate in this system by partnering with a designated Scheme Operator to fulfil their responsibilities. They will need to enlist as members and subsequently register their beverage products while also remitting fees – calculated by each container they place in the market – to the Scheme Operator. These fees will support the collection and recycling of empty beverage containers on their behalf. The Scheme Operator will be responsible for overseeing the scheme's operations, including the collection, management of empty beverage containers, and process of returning container deposits.

Source: National Environment Agency website, accessed 23 Oct 2023

BOX STORY

Food Waste Valorisation

Food waste valorisation is the conversion of food waste or byproducts into higher-value products that contribute back to the food supply chain. This contributes to the circular economy approach where useful material, once seen as waste, is recycled back into the supply chain to create new products. It is one of the food waste recycling pathways that can help to close the food waste loop.

A series of Industry Awareness Briefing (IAB) webinars was held in 2020. Organised by NEA and A*STAR, the sessions were aimed at addressing the main motivations behind food waste valorisation. Webinar participants were also presented with local solutions for recycling okara waste, soy bean waste, barley grains and coffee grounds. Recordings of these sessions can be found on the NEA website.

Source: National Environment Agency website, accessed 23 Oct 2023

CHAPTER 6

CONCLUSIONS

Sustainability is an emerging megatrend in the manufacturing sector. This study has found that many companies are aware of this megatrend, and have taken steps to commence their business transformation to better integrate sustainability into their current and future business strategies and operations. For most of the companies surveyed, sustainability is becoming a business norm. However, there is still room for improvement, as the implementation of sustainability initiatives remains low.

The growth of sustainability has resulted in an increasing demand for sustainability skills. From existing sustainability focuses and emerging areas of concern, this study distilled 10 sustainability-related skill sets required by the manufacturing sector. They are: stakeholder and community engagement, sustainability data management and impact measurement, sustainability reporting, carbon and decarbonisation strategies management, circular economy and resource efficiency, sustainable finance, internal audit on sustainability governance, sustainability risk management, climate and nature financial implication quantification, and natural capital management.

For most of the companies surveyed, sustainability transformation is a gradual but massive effort with huge financial implications. Accountancy and finance professionals, with in-depth knowledge of the holistic workings of a company, are well placed to incorporate sustainability goals into corporate strategy. This study has presented the case for why accountancy and finance professionals should lead at every stage.

Accountancy and finance professionals can be a key driving force in sustainability. In the sustainable re-imagination of business models, accountancy and finance professionals can be crucial to providing both the strategic vision and nuts-and-bolts for change. Moving forward, manufacturing companies should tap into these new and expanding roles of accountancy and finance professionals to drive their sustainability transformation.

ANNEX

SUSTAINABILITY RISKS AND OPPORTUNITIES FOR THE SINGAPORE MANUFACTURING SECTOR

From our interviews, we learnt that among SMEs, sustainability-related risk management is often done informally. A common strategy is to adopt the sustainability opportunities and risks from industry-level reports, and adapt them for use in their organisations. Nevertheless, it is encouraging that an additional 44% of companies in the study have plans to establish more structured risk management processes within the next 1-3 years (Chart 7), indicating a growing focus on proactively addressing sustainability-related risks.

Does your company have a process for managing (identifying, evaluating and dealing with) sustainability-related risks?

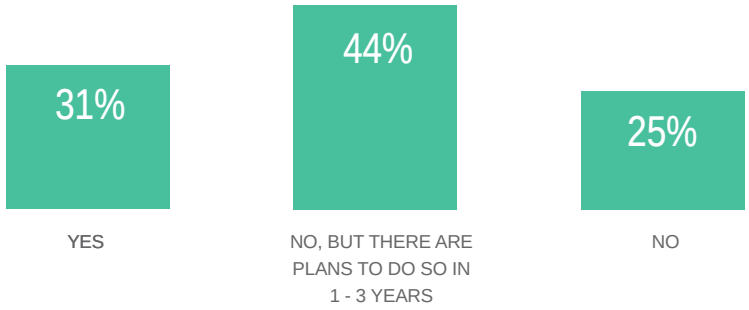


CHART 8 | FORMAL PROCESS FOR MANAGING SUSTAINABILITY-RELATED RISKS

Very few companies carry out climate change impact assessments. Although this practice helps identify vulnerabilities and develop resilience strategies, only 15% of companies currently conduct scenario analysis and/or stress testing to assess the potential impacts of climate change on their operations. However, a significantly higher number (47%) of companies have plans to initiate climate change impact assessment within the next 1-3 years (Chart 9), highlighting a rising awareness of climate-related risks, and the need for proactive measures.

Does your company conduct scenario analysis and/or stress testing in order to assess the potential impacts of climate change on its operations?

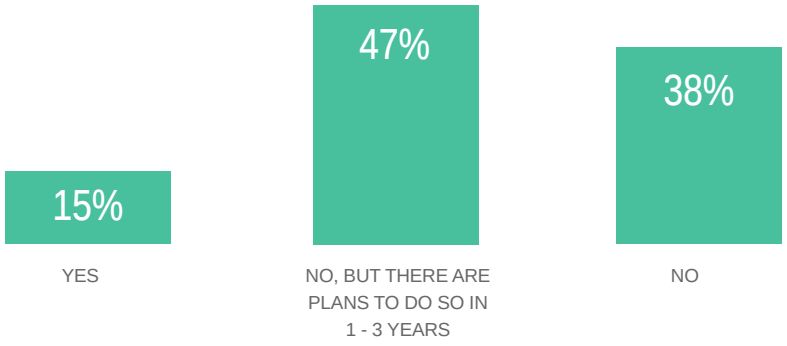


CHART 9 | CLIMATE CHANGE IMPACT ASSESSMENT

Among respondents, the top three sustainability challenges that manufacturing companies perceive regarding sustainability practices among their industry peers are: the higher operating costs due to sustainability regulation, lack of clarity on the regulation of sustainability practices, and operational impacts of extreme climate-related events. Other challenges mentioned include reputational damage if companies do not participate in sustainability practices, and scarcity of resources such as water and energy (Table 3).

TABLE 3

Which of the following issues are affecting companies in your industry group?	Order of Importance (1 – Most important)
Higher operating costs due to sustainability regulation	1
Lack of clarity on the regulation of sustainability practices	2
Operational impacts of extreme climate-related events	3
Reputational damage if companies do not participate in sustainability practices	4
Scarcity of resources such as water and energy	5
Shareholder pressure for more sustainability practices	6
Lack of insurance for sustainability practices	7

Despite these challenges, the companies surveyed have various motivations for adopting sustainability practices. The top five motivations are shown in Table 4.

TABLE 4

Top five motivations for adopting sustainability practices	Order of Importance (1 – Most important)
To achieve long-term business viability	1
Compliance with government regulations	2
Ability to strengthen my company's reputation through branding	3 (tie)
Lower operational costs	3 (tie)
To seize sustainability-related business opportunities	5

More than half (60%) of the companies in the study have conducted some assessment of sustainability risks and opportunities in their companies, although they have not yet established formal risk management and climate impact assessment procedures. About 45% have identified sustainability risks and opportunities.

Regarding impactful sustainability-related risks (Chart 9), companies rank market risks (21%) as the most impactful. Market risks may result in reduced revenue due to decreased demand for goods and services, increased cost of raw materials, and changing customer preferences. The second most impactful risk (19%) is regulatory risks, which include carbon pricing, emissions reporting and regulation of products and services. The next two most impactful risks identified are resilience risks (16%), which may deteriorate the ability to deal with adversity, withstand shocks, and continuously adapt and accelerate as disruptions and crises arise over time; and technology risks (16%), such as the costs associated with transferring to lower-emission technologies, and unsuccessful investment in new technologies.

Which of the following best represents sustainability-related risks for your company?

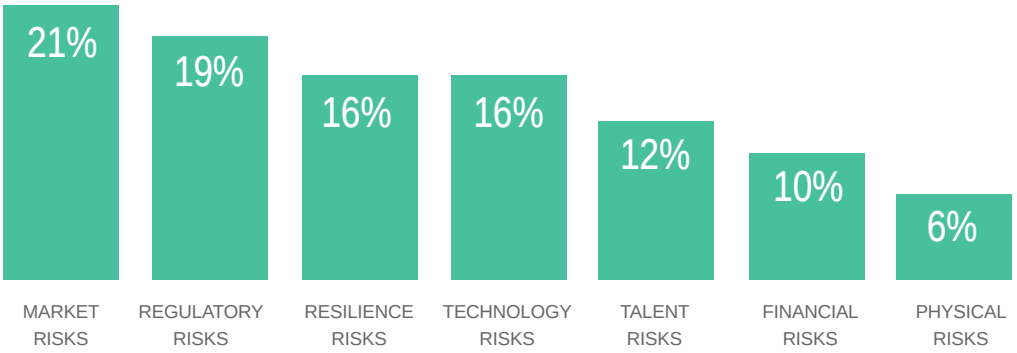


CHART 10 | MAJOR SUSTAINABILITY-RELATED RISKS

Most companies recognise the potential for sustainability-related opportunities (Chart 10). This is achieved through better utilisation of resources, for example, decreased water usage, and recycling initiatives. It is also achieved through the implementation of more efficient production processes, access to new business opportunities, and efficient use of resources. For example, companies could apply energy-efficient measures, leverage resource diversification, or tap on alternative sources of energy.

Which of the following best represents sustainability-related opportunities for your company?

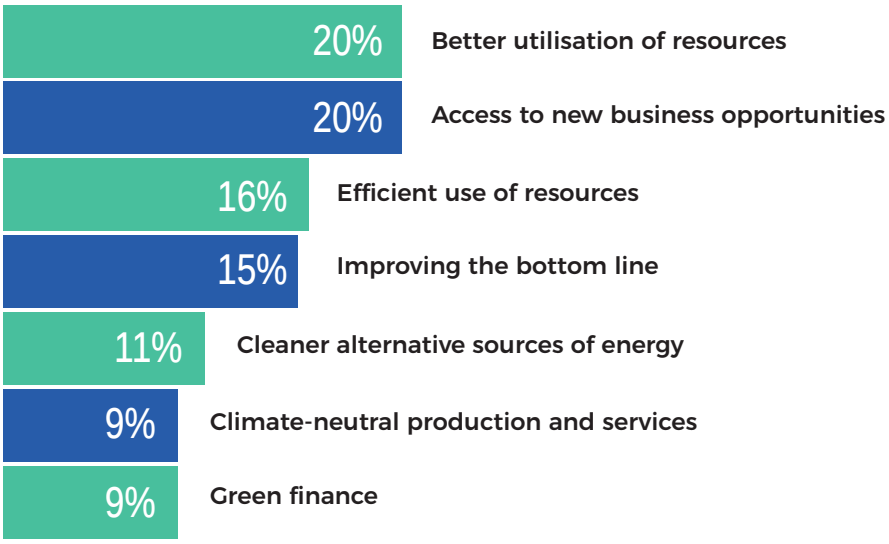


CHART 11 | MAJOR SUSTAINABILITY-RELATED OPPORTUNITIES

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ABOUT

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