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DEPARTMENT OF MANAGEMENT AND FINANCE
GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

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EDITOR'S NOTE

Tehani Pereira
Chief Editor
Logistics Times - 2023

WELCOME TO THE EIGHTH EDITION OF THE LOGISTICS TIMES!

It is truly an honour and pleasure to have been given the opportunity to make the Editor's Note for the eighth issue of the Logistics Times Magazine by the Technical Sciences and Management Society (TSMS). The content of this edition resonates with the theme for KDU Logistics Day 2023: "Re-engineering Supply Chains Towards Sustainability: Assuring Survival and Coexistence". This magazine is the result of the combined effort and dedication of the undergraduates of Intakes 38 and 39, who have taken the initiative towards bridging the gap between industry and academic knowledge.

This year's theme has been woven together as a continuation of last year's theme and covers the areas of sustainability within supply chains, the technological aspect of achieving sustainability, and the aspect of coexistence between all players in the supply chain to achieve sustainability. This magazine is a noteworthy compilation of insights and views from renowned industry personalities. Interviews were conducted by our undergraduates, and articles were written by the corporate sector, lecturers, undergraduates of intakes 37, 38, and 39 from all faculties, and invited undergraduates from parallel universities. You will also find the winning articles as well as some selected articles from the Inter-Faculty Article Competition, which was held as a new addition to KDU Logistics Day.

I take this opportunity to extend my sincere gratitude to all corporate partners for their generosity and for dedicating time off their busy schedules to ensure that our magazine reaches its fullest potential. A special acknowledgement goes out to Major General Milinda Peiris, Vice-Chancellor of General Sir John Kotelawala Defence University, Brigadier Chinthaka Wickramasinghe Deputy Vice-Chancellor (Defence and Administration), Prof. K.A.S.Dhammika, Deputy Vice Chancellor (Academic), Mr. Kithsiri Amaratunga, Dean of the Faculty of Management, Social Sciences and Humanities, Ms. Dushanthi Lokuge, Head of Department, Department of Management and Finance, Dr. Kalpana Ambepitiya, Dr. Sabeen Sharic, Mr. Anju Ilangasekara, Mr. K.P.J. Bemindu, Ms. Chamila Kothalawala, Ms. Wasana Sudusinghe, and all other Academic Staff of the Faculty for giving us their fullest support and expertise in helping us to navigate through this challenging journey.

I want to express my sincere gratitude to the editorial committee members for their tireless efforts, the co-editor of the Logistics Times Magazine, Ransuni Thilothma, for always being a constant pillar of strength, and the chief designer for giving the magazine a creative touch. I am extremely grateful to the Executive Committee of the TSMS for being a source of encouragement and support, and appreciate our senior colleagues for giving us their guidance throughout. Finally, I would like to acknowledge each and every author for sacrificing their valuable time, and all members of the TSMS for collectively working towards making the publication of the 8th Edition of the Logistics Times magazine a success. As you start reading, we wish you an enriching experience.

Happy Reading!

The iconic “Kandawala Walawwa” of General Sir John Kotelawala:
Peerless gift to the motherland that proudly represents
the academic excellence and discipline upheld by KDU
as a renowned Defence University.

GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY

General Sir John Kotelawala Defence University (KDU) is one of Sri Lanka's most prestigious universities, producing well-educated graduates who serve the country under the motto "For the Motherland Forever." Today, KDU holds the distinction of being the country's only Defence University, producing an eclectic blend of officer cadets, officers, and civil undergraduates to serve the country.

KDU VISION

To be a university nationally and internationally known for its unique ability to engage both undergraduate and graduate students in distinctive and interdisciplinary defence-related higher education that best serves the tri-services, the state sector, and society at large.

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To ensure a high-quality, learner-centred educational experience through undergraduate, graduate, and professional programs along with high-quality research across many disciplines in the field of defence, in both residential and non-residential settings on the campus.

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This degree is offered in three streams; namely Transport, Supply Chain Management and Finance. It ensures competencies of military and non-military students' fine-tuned knowledge and skills in Logistics Management to serve as future professionals, may it be military officers or civilians. This course is open for only students who followed the GCE (A/L) examination in mathematics, science or commerce or possessing an equal qualification in London A/Ls (Cambridge or Edexcel) or any other equivalent for foreign examination.

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Industrial placement plays a vital role in preparing students for their professional careers. During a six-month training period in the final semester, students gain hands-on experience, learn required skills, understand industry demands and work ethics, and apply their university knowledge in practical settings.

Mind Map

Prepared by:
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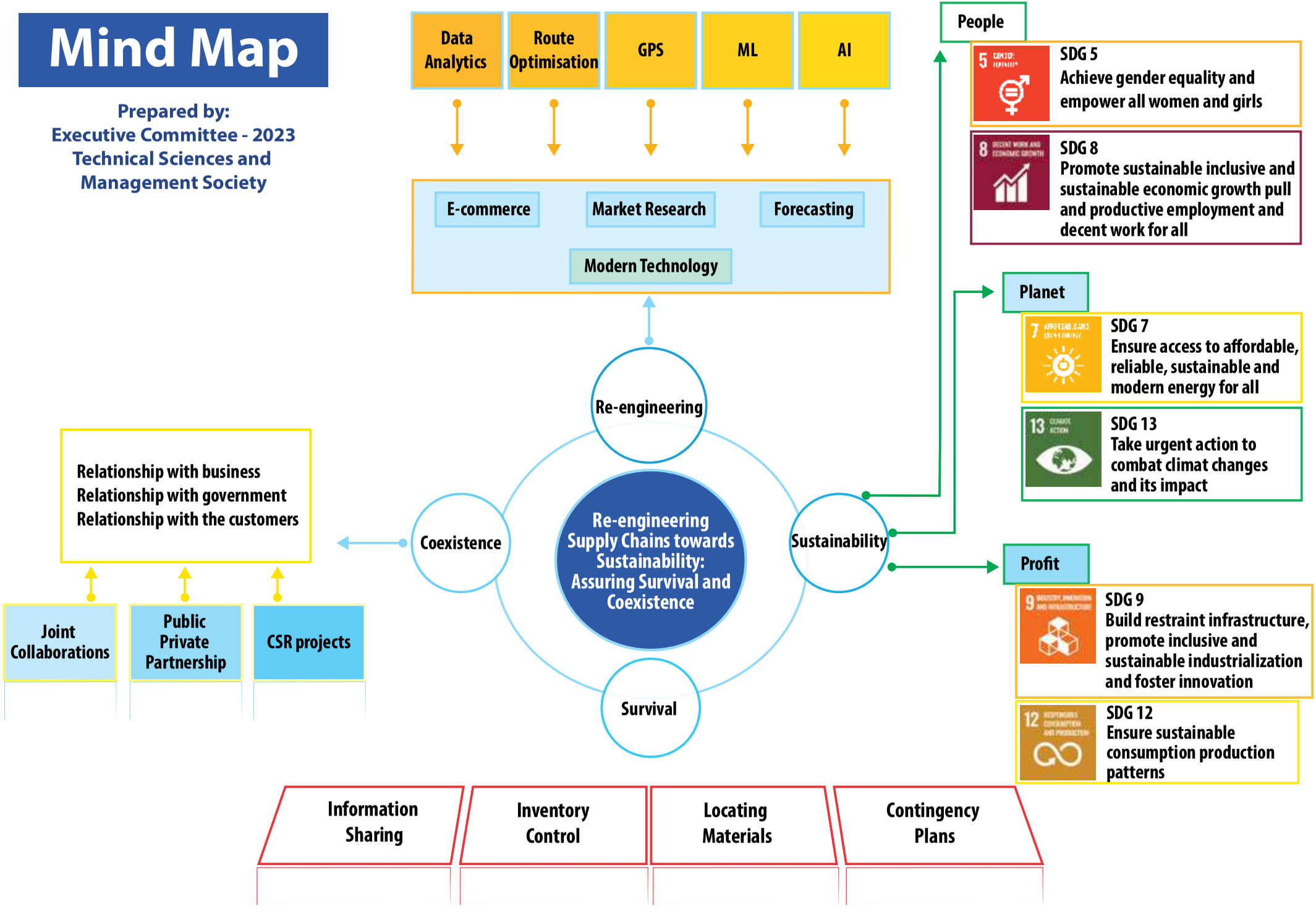

"THE ROLE OF DIGITALIZATION IN A JOURNEY TO ACHIEVE SUSTAINABLE EXCELLENCE"

Mr. Kamal Geeganage

Chief Operating Officer - CBL Foods International (Pvt) Ltd (A Subsidiary of CBL Group)

Higher Education
BSc in Business Administration, University of Colombo

Qualifications
MBA in Australian Institute of Business

Work Experience
Operations Director and Head of Integrated Supply Chain Operations at Fonterra Lanka

Interviewed by:
Ransuni Thilothma, Sasanka Wickramasinghe

Transcribed by:
Kevin Perera, Imesha Ranasinghe

Photographed by:
Mihin Peiris

Scan to watch interview

Q CBL is the market leader for biscuits, chocolates, and other concessionaires. How has CBL managed to be at the forefront of cutting-edge technology and food innovation?

We have been at the forefront of food innovation for 55 years and we have a strong legacy of catering to our consumers with the highest safety and quality of products, building on our experience in the confectionery sector. Today, the CBL group has a wide portfolio, as a diversified food manufacturer, and we produce biscuits, chocolate, cake, cereals, spices, coconut products, textured soy and organic products for local and export markets. We are consumer centric and over the decades we have continuously invested in technology to bring flexibility, cost savings and efficiency to our operations. For example, the latest addition to our chocolate manufacturing facility is completely automated from beginning to end and has minimal human intervention, enabling us to deliver a superior product with precision. Our digital transformation roadmap is helping us streamline our processes with robotics, real time data and automated processes, and we are harnessing the power of technology to drive food innovation across our portfolio.

How has CBL leveraged automation and digitalization to re-engineer its supply chain to ensure its efficiency and competitiveness as it has been implemented in sales operations?

We have successfully utilized automation and digitalization to revamp our supply chain and improve efficiency and competitiveness in sales operations. Last year, we embarked on a project to automate various aspects of our operations and a substantial investment was made towards this.

There is a rising need for automation with the scarcity of skilled labor in Sri Lanka's manufacturing industry. By embracing automation and strategically managing attrition, we are able to minimize our reliance on manual operations. There are countless opportunities to improve quality and also support health and safety of the workforce through automation. This will result in reduced labour dependencies and costs of production and support productive systems that will ensure our competitiveness in global markets.

How does the change in consumer lifestyle patterns affect CBL's supply chain and how does it use digitalization across supply chains to cater to this requirement?

As a food manufacturer we are closely tuned into consumer insights. Today, we are seeing the power of Artificial intelligence (AI) to map consumer buying behaviour and provide manufacturers and producers with more market insight. Although as a nation, we have not yet fully tapped into the potential of this technology, we are heading in that direction: we have identified that some Sri Lankan modern trade channels are significantly superior when it comes to data management. We collaborate closely with them to tap into valuable insight that helps us to be agile and keep up with changes in lifestyle, buying patterns, and seasonality.

As a result of digitalization and easy access to data, consumer behaviour is now changing faster than ever. Technology has enabled us to connect to the retailer; even to small retail shops, in an effort to get closer to the market. We convert data that is collected, into information and then into insight, to make the best business decisions. We also rely on market research and data from the Global Consumer Index in order to have an overall understanding of consumer behaviour. This leads to developing products that are geared to fulfil consumer needs and we are able to continuously evolve our processes and supply chains to meet these changing consumer trends.

Considering the brands of CBL like "Samapasha", how is it placed as a sustainable brand, when considering the SDGs it focuses on?

Samaposha is the market leader in the cereal category and it is a nutritious and affordable breakfast choice. All Samaposha products are manufactured using locally sourced ingredients from our vertically integrated network of over 13,000 farmers and who are key partners in our value chain. Making sure that our farmer network is able to produce raw materials sustainably and earn stable livelihoods is critical to the sustainability of our business and Sri Lanka's food security. We provide guaranteed prices and support farmers to adopt technology and best practice for better quality and productivity, and also minimize negative environmental impact. We have invested significantly to provide these growers with necessary infrastructure, inputs and equipment and, dedicated agriculture teams that work directly with farmers. We recently launched the SMART AGRO app. This further supports our farmers to connect with our agri team for support 24/7 and involves them in decision making with digitized forward sales contracts. We also entered into an MOU with the USAID Climate Adaptation programme in line with our objectives to adopt climate smart best practice.

"There is a rising need for automation with the scarcity of skilled labour in Sri Lanka's manufacturing industry."

These networks provide raw material for many of our products across our brands and it is critical for us that they can be resilient. From an UN SDG perspective, our work helps us build sustainable and productive food supply chains through responsible manufacturing that help reduce poverty and uplift communities.

How does CBL maintain good farming practices to ensure environmental and social sustainability?

We provide significant support to our farmer network. Education plays a crucial role in promoting sustainable farming practices. Our extension officers undergo rigorous training to guide farmers in making informed decisions regarding soil management, crop selection, and seed choice. We have partnered with the Department of Agriculture to produce and sell certified seeds, ensuring the protection and quality of seeds available to our farmers.

Fertilizer selection is tailored to the specific crops and land conditions of each area. By taking into account the unique requirements of different regions, we optimize fertilizer usage, minimizing environmental impact and promoting efficient nutrient utilization. Recognizing the need for technological advancements in agriculture, we have taken steps to address this gap. For example, we have introduced combine harvesters used in paddy cultivation to corn farming, and we plan to extend this approach to soya cultivation as well. Additionally, we have invested in silos equipped with temperature control systems to preserve the quality of crops, and we have developed mechanical drying techniques to protect crops for extended periods. By incorporating technology into farming practices, we enhance productivity, reduce costs, and minimize wastage. We treat our farmers as partners and we are invested in developing competencies and ensuring community wellbeing. We also support female led farmer groups and smallholders in non-traditional growing areas as a means of promoting farming as a means of livelihood.

Q 'Munchee' is the only brand that has won the Brand of the Year award for five consecutive years. How do production quality and the consumer-centric production approach help achieve this?

Munchee is a brand that is very closely linked to its consumers and has always been synonymous with quality and caring. We do not compromise on quality and even during crisis times we ensure that every safety protocol is followed and strengthened. Munchee also leads innovation and has a strong team of R&D professionals that continuously innovate products to satisfy the consumer. We are continuously improving our processes and we utilize robotics and precision technology in our operations. But beyond this, Munchee is also a catalyst for growth in our communities and plays an important role in supporting inclusive distribution networks, preventing early school dropouts through scholarships, developing rural infrastructure and supporting entrepreneurship. I believe this commitment to being a brand for the consumer is why Munchee continues to shine.

Q As one of Sri Lanka's largest exporters, what are the strategies that CBL uses in acquiring the international market to maintain survival and coexistence?

The international market is very challenging and dynamic and a major exporter, CBL adapts strategies and priorities to ensure that we achieve our goals and continuously improve our standards. The export sector is key to generating more export revenue and bolstering the country's reserves and CBL's is committed to supporting Sri Lanka's economic recovery. To achieve this, we conduct thorough research and analysis to identify promising markets and regions. We have established operations in Ghana, focusing on the biscuit and confectionary market, allowing us to offer a wider range of customized products and expand our presence in that area. We also prioritize building strong brand recognition among global consumers and customers. We engage in selling operations in foreign markets, including distribution and storage services. This not only enhances our capabilities but also contributes to the development of those markets. CBL develops internal capabilities by including globally relevant personnel into our team, enabling us to gain insights into investment opportunities and nurture our talents. Mastering global trade allows us to excel internationally.

Q Digitalization has enabled more effective links in the value chain. How does CBL promote digital payment methods among retailers and distributors to influence the efficiency of the supply chain?

We have a very wide nationwide network of mostly SME distributors and retailers. This network is crucial to the food supply chain and the Sri Lankan economy. The SME sector contributes to about 30% of Sri Lanka's GDP and has been severely challenged over the past decade and more recently with the economic crisis. Most of these family businesses had not adapted to the needs of the present and we experienced that many businesses were close to shutting down. In 2018, we launched CBL Senehasin Jayamagata in collaboration with the International Finance Corporation (IFC), a World Bank organization, to develop competencies towards more inclusive networks. Developing digital payment competencies is a priority under this programme and working with key partners we are helping our network adopt digital payment methods to streamline financial operations and build resilience. Culture often plays an important role in digitization, and leaders of companies are responsible to evolve their culture into embracing technology to help do things better.

Q What are the challenges CBL faces in dealing with local suppliers and how does CBL manage the risks associated with the current economic situation in Sri Lanka?

CBL, like many other manufacturers aiming for quality and a stronger business presence, faces several challenges in this arena. While there are exceptional suppliers who understand our requirements, there is a need for further development in this aspect. The buying and selling landscape has undergone significant changes, emphasizing the importance of a partnership mindset and collaboration. However, the gap in mindset often leads to challenges such as inconsistent quality, pricing discrepancies, and unreliable deliveries.

As responsible firms, it is our duty to nurture and provide opportunities for our local suppliers. At CBL, we have implemented a Supplier Development Program, which involves approaching suppliers, understanding their needs, and assisting in their growth and improvement. This approach should be embraced by conglomerates as a collective mindset. Operational efficiency also plays a vital role, particularly in addressing pricing challenges. Low operational efficiencies among local suppliers can result in higher prices. As we have master operational efficiencies within our organization, it is our responsibility to extend the same support to our suppliers, helping them reduce waste and enhance efficiency. This, in turn, enables them to offer more competitive prices compared to other suppliers. Given that we operate in a global market, our local prices are constantly compared to global prices therefore, our focus at CBL is to ensure the right pricing, maintain quality standards, and establish reliability.

> *"We understand the importance of investing in our brands to ensure their relevance not only locally but also on a global scale."*

Q What are some of CBL's futuristic strategies that have enabled the company to maintain strong growth performance and sustainable development across its value chain?

As a local conglomerate deeply committed to the country, we have identified key priority areas within the Business. Exports being one of them. Recognizing the vast opportunities in the export market, we have devised a long-term plan to further expand our export activities. Two critical factors that set CBL Foods apart from other FMCG companies are our brands and our people. We understand the importance of investing in our brands to ensure their relevance not only locally but also on a global scale. By continuously nurturing and growing our brands, we position ourselves for ongoing success.

Attracting and retaining talent poses a significant challenge, and we are addressing this by investing in training and development initiatives. We believe in equipping our workforce with the skills and knowledge they need to thrive in their roles and contribute to the company's growth. Technology is another key priority for us. We recognize the transformative potential of digitization and AI, and we are committed to leveraging the right platforms and technologies to maximize their benefits across our organization. Embracing technology enables us to enhance efficiency, streamline processes, and stay at the forefront of industry advancements. We firmly believe that these futuristic strategies, encompassing brand investment, talent development, and technology integration, will shape the future and drive sustainable growth for CBL in the dynamic business landscape. ●

Reforming Sustainable Practices for More Efficient and Greener Supply Chains

NETHMI ARIYADASA
Undergraduate - Intake 38
BSc in Logistics Management
Faculty of Management, Social Sciences and Humanities
General Sir John Kotelawala Defence University, Ratmalana

There is no longer a "nice-to-have" concept in relation to sustainable supply chain practices; however, it has become a necessity in today's world. The ability to satisfy current demands without compromising the capacity of future generations to satisfy their wants is known as sustainability. Building an equitable and resilient society is about striking a balance between economic, social, and environmental issues. As well as the process of fully rebuilding and changing an organisation's business processes to increase effectiveness, productivity, and profitability is known as re-engineering. Instead of merely making little adjustments to current procedures, it frequently entails taking a step back and re-evaluating the entire way business functions. Re-engineering often entails using cutting-edge technology to streamline corporate operations and boost overall performance, such as automation and data analytics.

By implementing sustainable re-engineering practices within their supply chain operations, companies will have the ability to improve their bottom line while contributing to a more sustainable and better tomorrow for all. When paying attention to global industries, it reveals that companies are implementing sustainable re-engineering techniques to create supply chains that are more efficient and sustainable. For instance, global fashion brands like Adidas and Levi's, are putting into practice circular fashion projects that entail recycling and repurposing materials to minimise waste and the usage of new resources throughout the supply chain process as much as possible. In addition, organisations like DHL, Amazon, and UPS use eco-friendly transportation strategies including electric cars and cycle deliveries to cut down on transportation-related carbon emissions.

Instead of merely making little adjustments to current procedures, it frequently entails taking a step back and re-evaluating the entire way the business functions.

When it comes to the Sri Lankan context, sustainable supply chain methods are likewise becoming more and more crucial. Sri Lanka is a developing nation that must deal with several environmental issues, including waste generation, deforestation, and air and water pollution. The utilisation of renewable energy sources in the manufacturing industry is one illustration of sustainable re-engineering procedures in Sri Lanka. Solar, wind, and hydropower are a few of the many renewable energy sources available in Sri Lanka that may be utilised to power industrial operations. Companies may lessen their dependence on fossil fuels, cut their energy expenses, and reduce their carbon footprint by implementing renewable energy sources.

The optimization of transportation routes in Sri Lanka is another illustration of sustainable re-engineering techniques. Although Sri Lanka has a relatively small geographical area, its road network is frequently backed up, which increases travel times and fuel consumption. Businesses can improve their transportation routes to cut down on trip time, fuel use, and carbon emissions by leveraging technologies like GPS and data analytics. In addition to these instances, Sri Lankan companies can implement a variety of other sustainable re-engineering techniques to enhance their supply chain operations such as employing eco-friendly materials in production, cutting back on packaging, and putting closed-loop resource management systems in place. In the supply chain industries, adopting sustainable re-engineering techniques may have many advantages for companies. They include financial savings brought on by less waste and higher productivity, enhanced customer pleasure brought on by sustainable and ethical business practices, and improved company reputation for environmental responsibility.

It is important to keep in mind that, there is no "magic solution" or "all-cure" in supply chain re-engineering exists. Therefore not only the benefits, when implementing sustainable re-engineering practices within the supply chain, but the companies should also thoroughly go through the challenges as well.

As Edward Sweeney says in his book "Re-engineering the Supply Chain: Making SCM Work for You," it is important to keep in mind that there is no "magic solution" or "all-cure" in supply chain re-engineering. Therefore, not only should companies reap the benefits of implementing sustainable re-engineering practices within the supply chain, but they should also thoroughly go through the challenges as well. One of the major challenges that can be identified is the lack of knowledge in the top-level management of the company. Though those kinds of new implementations have become a necessity in the modern world, if the company's senior management is not supporting their end properly by allocating budget and spreading awareness, it will not be an easy task for companies to move on. Furthermore, for these kinds of implementations, the initial cost is usually high, and adapting the technology and making all the employees aware of the new changes will be challenging as well. Re-engineering to improve supply chain performance entails analyzing internal and external parameters using relevant data that has been gathered, identifying and evaluating potential alternative improvements, carefully planning those improvements, and then putting those improvements into practice, including any necessary change management.

In conclusion, it is becoming more crucial both worldwide and in Sri Lanka to employ sustainable re-engineering approaches within supply chain procedures. Organisations highly appreciate the need of understanding the relationship between these two concepts and seize emerging opportunities arising from a supply chain management sustainable and re-engineering approach. Using these strategies enables businesses to enhance operational efficiency while reducing environmental impact. Organisations must use sustainable re-engineering techniques and take a proactive approach to sustainability as Sri Lanka expands and develops to build a more sustainable future for everybody. ●

"BALANCING THE INFINITE AND FINITE GAMES: THE KEY TO SUSTAINABILITY IN THE SUPPLY CHAIN"

Mr. Lasith Perera

Director Group Sourcing and Supply Chain - MAS Capital

Higher Education

OCR in IT Skills (ITQ), Computer and Information Sciences and Support Services - Oxford Cambridge and RSA
Supply Chain Management - Cranfield University of Management
Computer Science - University of Bristol

Qualifications

Member of the Chartered Institute of Logistics and Transport (CILT UK)

Work Experience

Joined MAS in 2021
Head of Global Supply Chain - Argo
Head of Value Chain | Group Commercial - Home Retail Group PLC
Head of Network Flow - Homebase Bunnings
Head of Supply Channel - Commercial - Woolworths
General Manager - Retail - P&O Ferrymasters
Operations Manager - Mark and Spencer

Interviewed by:

Miyuranga Premawardhana

Transcribed by:

Miyuranga Premawardhana,
Danodya Ekanayaka

Photographed by:

Mihin Peiris

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Q As a leader who leads multi-disciplinary teams, how do you use the experience and expertise to enhance a dynamic workplace for employees, while delivering the most desired outcome for the customers?

I will start by saying leadership is not easy, especially in a journey of transformation. So how do we lead when there are significant changes; you need to set a vision to create what the future would look like and set out a strategy to enable that mission to be realised. Then you underpin that with a very clear set of goals. For a team of colleagues with the talent to drive in, in that framework, emotional connectivity is quite important. The emotional attachment to the actual purpose is what drives; what I call the infinite game. In contrast to projects which have finite timelines, transformations are infinite. There is no clear endpoint. It is important that there is an emotional connection between the purpose and mission. Apart from that, it is also about how you lead. Leadership has many styles, there is no one way of leading. I adopt a flexible leadership style that is empowering and gives a lot of autonomy. There are times whereby leaders must be both collaborative and directed, and one must choose the style depending on the circumstances. The leaders would have to make some difficult choices and make some difficult decisions from time to time but it can deliver very profound change to both colleagues and business.

Q With the prevailing economic situation in the country, how does MAS take priority to sustain its supply chains and other channels on a digital platform and deliver results to the business?

Multiple sectors, not just the apparel sector, are facing those challenges today. Consumer confidence suffers, resulting in the reduction of demand which causes a ripple effect to manufacturers like us. It can be quite challenging to navigate that environment. The way that we at supply chain approach it is through the ability to play the finite and the infinite games. We are focused on delivering this year's performance despite the challenging environment, while maintaining sight of the long game which is an infinite element, focusing on the investments which make sure that our business is fit for the future. We are 100% committed to delivering in the areas which are most suitable for the business, therefore our customers remain with us on a long-term basis. We are playing both the short-term and long-term game focused on delivering what matters to the customer today as well as in the years to come.

Q How does digitalization help the global supply chain?

Digitalization is a cultural combination of many things. It consists of the Internet of Things (IoT), Machine Learning (ML), generative artificial intelligence (AI), analytics, and many other things. Supply chains can take advantage of all those things and in today's world, supply chains have already done that. The automotive industry, for example, has a supply chain that has adopted digitalization. Digitalization would give us the ability to execute the activities with higher accuracy and efficiency in our business model in terms of productivity, and it offers the ability to scale and optimise. We are convinced that as an international business, digitalization gives us a backbone. We are realistic about what digitalization offers us and how we approach digitalization step by step; we will crawl, walk, and then run. The other thing is the importance of data in digitalization; both structured and dynamic data that is accurate, without which, digitalization will not see the light of day.

"We are focused on delivering this year's performance despite the challenging environment, while maintaining sight of the long game which is an infinite element, focusing on the investments which make sure that our business is fit for the future."

Q From a cost management perspective, how does MAS use cost-effective logistics and sourcing to collaborate with other logistics service providers, to survive during this challenging period?

When considering COVID-19, post-pandemic business logistics costs were significantly higher than pre-pandemic, and there was greater volatility in supply costs. This has affected the financial strength of the business because it had to absorb huge costs and share some of those costs with consumers. To address this, we have partnered with logistics provider Hellmann as a joint venture to ensure our model is resilient, secure, transparent, and market-competitive. The model has also developed simplicity for colleagues in terms of freight management and visibility while offering both quality benefits and quantitative benefits required in this space.

Q As an expert in this industry, what is the potential seen in the future of Sri Lankan supply chains, and the way forward in terms of the use of technology in the apparel industry?

In terms of the apparel industry, companies are making high investments in the technological level of supply chains. Through this, a more efficient and collaborative relationship can be built rather than a manual relationship with the partners.
We are also working with all our ecosystem partners, including suppliers, for better collaboration and leveraging technology in the manufacturing process. Apparel manufacturing has already adapted to technology and the supply chain must connect all that together using technology. Indeed, technology plays a significant role in facilitating the implementation of these collaborative relationships and driving value in supply chain management. Technology is to make all supply chains operate easily and to drive value from them.

Department of Management and Finance
General Sir John Kotelawala Defence University

"In 2003, MAS signed up for the UN Global Compact on Sustainability and the Foundation for Change, and now they are looking to stay ahead of the curve."

Q What will be the role of supply chain in the business with the current global recession?

As of today, we have not faced a global recession, but rather a global downturn. Therefore, there is a downturn in supply chains. This downturn does not last long and can use many tactical approaches to recover. We need to maintain a balanced approach in cooperative relationships with all partners. It means engaging in relationships that add value to all stakeholders in the business's supply chain. Furthermore, while procuring, we do it based on both value and cost and here the best approach is the value-based approach to offer what our customers want. If we simply procure the cost in this environment, suppliers are going to feel that and they may not stay with us even though the situation improves, and gets better because the downturns will not remain downturns forever. Therefore, MAS procures value in respect of end-to-end quality, delivery, performance, and innovation.

Q How do you approach sustainability in MAS?

According to us, sustainability has been a voluntary code for many years, and MAS has been ahead of the curve on sustainability for many years. In 2003, MAS signed up for the UN Global Compact on Sustainability and the Foundation for Change, and now they are looking to stay ahead of the curve. This has had a positive impact on their customers and their supply chain. The three pillars of sustainability for our company are the environment, society, and production. We are making progress on all three pillars with dedicated teams and leadership to expand their sustainability agenda. These pillars include cutting waste, recycling, minimising landfills, and reducing the use of harmful chemicals. Consumers expect more transparency about their sustainability because they do not understand where cotton comes from or what it does to the environment.

Q Do you have anything further to say regarding our theme of re-engineering the supply chain towards sustainability to ensure survival and coexistence?

The supply chain has a lot to offer and is the backbone of a business. Now is the time for supply chain professionals to come to the table and make a difference in all areas. The value that a supply chain can deliver to a business is proven and there is much more to achieve. I encourage anyone interested in being in the area of supply chain management to be curious, ask questions and keep learning. ●

"CREATING SHARED VALUE TO MAKE A SUSTAINABLE DIFFERENCE IN SUPPLY CHAIN"

Ms. Sathya Goonasekera

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Interviewed by:
Tehani Pereira, Dunal Bandulahewa, Rashmi Tharaki

Photographed by:
Nethmi Ariyadasa

Q As a Global Compact LEAD company which is committed to the United Nations (UN) Global Compact, in which areas has Nestle contributed towards sustainability as a company and to its stakeholders?

We continue to work hard so our business contributes to these goals, monitor our progress and report transparently. We have accelerated our efforts to reduce greenhouse gas (GHG) emissions by 20% by 2025 and 50% by 2030 basis the 2018 levels with the ultimate goal of achieving net zero emissions across the value chain by 2050 at the latest. If I were to give a few examples of our efforts at Nestlé, we were the first in the local industry to switch to paper straws for aseptic beverage cartons in May 2021. We also encourage tree planting in the dairy value chain, with ~11,450 trees planted in 2022. In our efforts of adopting greener manufacturing practices, we reduced energy use by 13% per tonne of production and water

usage by 1% per tonne of production (2012-2022) at our factory and improved our vehicle fill rate by 13% in 2022 by introducing backhauling to the transport operation.

Q How does Nestle continue to maintain sustainability within local supply chains when focusing on the procurement of raw materials?

Two main raw materials we source locally are fresh milk and coconut. Our dairy value chain consists of ~12,000 local dairy farmers and we contributed Rs. 3.6 billion to the local dairy industry in 2022 through procurement. We also assist with continuous investment for select farmers, by offering silage and cattle feed subsidies, comprehensive training programs and equipment, construction of biogas units and cattle shed improvement to maintain a sustainable dairy value chain.

Our coconut value chain consists of 8000 farmers and we paid out Rs. 6.8 billion to the local coconut industry in 2022.

We successfully completed the carbon footprint verification in collaboration with Sri Lanka Climate Fund for our upstream coconut value chain from farm to factory and we were the first in the Sri Lankan coconut industry to complete this verification. In line with the recommendation of the report, we have developed a comprehensive roadmap to move towards regenerative agriculture in our journey of achieving net zero emissions by 2050 for our coconut value chain.

We are committed to developing a responsible, sustainable, and regenerative local supply network.

Q How does Nestle use technology in order to re-engineer their supply chains and provide end-to-end supply chain solutions?

In order to have end-to-end supply chain solutions, firstly, visibility is required and an area we have embraced is control tower where cockpit view is available on key performance indicators across the value chain. This helps to make data-driven decisions. Another interesting tool that is leveraged is the transport hub which supports in terms of route optimization, increasing the vehicle fill rate etc.

Q Re-engineering involves using technology in order to improve business processes and customer satisfaction. How has the use of e-commerce platforms enabled Nestle to achieve this?

With the heightened importance given to digitalization, Nestlé focuses on the holistic digital eco-system rather than just e-commerce platforms to delight consumers. This entails understanding our consumers deeper, to delivering personalized solutions, to supporting them to purchase and enjoy our products.

Q How has Nestle's global presence assisted it to withstand economic downturns resulting due to fluctuations in inflation?

"We were the first company in Sri Lanka to switch to paper straws for aseptic beverage cartons in May 2021."

Q How has Nestle's emphasis on sustainability and corporate social responsibility contributed to its ability to coexist with its stakeholders in the industry?

At Nestlé, our CSR strategy has evolved into what we call 'Creating Shared Value' (CSV) and CSV has always been fundamental to the way we do business. We have long believed that our company can only be successful in the long term by creating value for both our shareholders and society. As such, our CSV approach puts strong emphasis on working together with our stakeholders across and beyond the value chain to make a positive difference to Sri Lankan families, communities, and the planet.

Q How does your organization ensure the safety and quality of your products?

Staying true to our promise of 'unlocking the power of food to enhance the quality of life for everyone, today and for generations to come', food safety and quality are our number one priority and is at the heart of our purpose to enhance the quality of everyone through the tastier and healthier food choices we offer. As such, a stringent quality management system is in place at each stage of the value chain to meet internationally recognized standards. Many quality tests are conducted every year to ensure the rigor of the quality system.

I believe it's the global presence combined with the deep-rooted bond we have built locally over the 115 years of operations that have supported to steer through numerous disruptors. The global presence leverages capacity to aggregate and scale across supplier bases and supply chain routes enabling to get the optimal value while the local presence and continuous efforts to reduce the import dependency in materials by use of more local/ indigenous ingredients has supported in ensuring supply.

Q The shifting demands of consumers in a world that is more sustainable has affected supply chains in many ways, how does this affect the procurement process?

It really tests the resilience of the procurement process to react to these changes and how well the risks were anticipated. It's important to read the weak signals in the external environment and convert them to proactive actions.

"We are committed to developing a responsible, sustainable, and regenerative local supply network"

A key focus area for us at Nestlé is proactively improving our sourcing flexibility, sourcing from different sites, supplier origins and specification with shorter lead times.

Q Dialog Enterprise's Cold Room Temperature Monitoring System (CTMS) is a good example of sustainable partnerships/collaborations. How does this add value to Nestle?

This was a first of its kind in the food industry; a real example of the use of state-of-the-art Internet of Things (IoT) technology to improve operational efficiency and quality. Given ensuring quality and food safety is a top priority, it has really helped to move out from a previous manual monitoring process to real-time monitoring along with the ability to store data for analytics.

Q Finally, how would you describe the future of the FMCG industry in Sri Lanka in the midst of an economic downturn and what are some practices which can be drawn from Nestle?

It will be a challenging period for the FMCG industry with change in consumer disposable income which will invariably impact consumer preference and lifestyle. Hence, it becomes more important to understand what the consumer values, and identify resulting business opportunities and offer products to meet their expectations. With the volatility in demand, a traditional supply chain solution will not withhold. Therefore, it requires a shift to a more dynamic service-oriented supply chain where scenario planning supported by strong risk mitigation plans are adopted in ensuring supply, whilst every penny that can be saved in the value chain needs to be looked at. ●

“Re-engineering supply chains towards sustainability is not just about doing good; it’s about **FUTURE-PROOFING** businesses, ensuring resilience, and fostering long-term success.”

· Emmanuel Faber, former CEO of Danone

The Role of Artificial Intelligence in Advancing Sustainable Development Goals and Its Use in the Supply Chain

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Over the past few decades, sustainable development has emerged as a key global priority, as countries and communities grapple with urgent challenges such as climate change, resource depletion, and social inequality. At the same time, advances in artificial intelligence (AI) are opening up new possibilities for addressing these challenges and advancing the United Nations' Sustainable Development Goals (SDGs). The use of AI in sustainable development is not without its challenges and risks. This article will explore the potential of AI to support sustainable development, as well as some of the ethical and practical considerations associated with its use.

THE POTENTIAL OF AI FOR SUSTAINABLE DEVELOPMENT

Many algorithms and tools can be used to achieve the SDGs. Machine learning (ML): Algorithms that come under ML can be used to analyse large and complex datasets, identify patterns and trends and make predictions about future outcomes. These techniques and algorithms can be applied to various SDG areas, such as weather pattern prediction to help farmers optimise their yields, identifying areas with a high risk of disease outbreaks, or detecting and preventing wildlife poaching.

Natural Language Processing (NLP): NLP techniques and algorithms are used to analyse written or spoken languages that enable insights into issues such as social inequality, public health or hate speech. For example, NLP can be used to analyse social media conversations to detect patterns of discrimination or hate speech. During the COVID-19 pandemic, NLP played a major role to overcome some critical problems such as Chatbots, Information Extraction Systems, Sentiment Analysis, Language Translation, and Contact Tracing.

Robotics and Automation: Robotics and automation technologies can help reduce the environmental impact of various industries, such as agriculture or manufacturing, by enabling more efficient and sustainable practices. For example, robots can be used to optimise irrigation or reduce the use of chemical fertilisers, or improve the energy efficiency of factories.

CHALLENGES AND RISKS

There are many challenges when implementing AI techniques to achieve the SDGs.

Data Privacy and Security: AI systems rely on large amounts of data to operate effectively, and this raises concerns about the privacy and security of sensitive data. For example, AI applications in healthcare may involve collecting and analysing personal health data, which could be vulnerable to breaches or misuse. Similarly, AI applications in areas such as climate modelling or disaster response may involve collecting sensitive geographic or demographic data. Ensuring that this data is collected, stored, and used securely and ethically is essential to building trust in AI systems and promoting their effective use in sustainable development.

Over the past few decades, sustainable development has emerged as a key global priority, as countries and communities grapple with urgent challenges such as climate change, resource depletion, and social inequality. At the same time, advances in artificial intelligence (AI) are opening up new possibilities for addressing these challenges and advancing the United Nations' Sustainable Development Goals (SDGs).

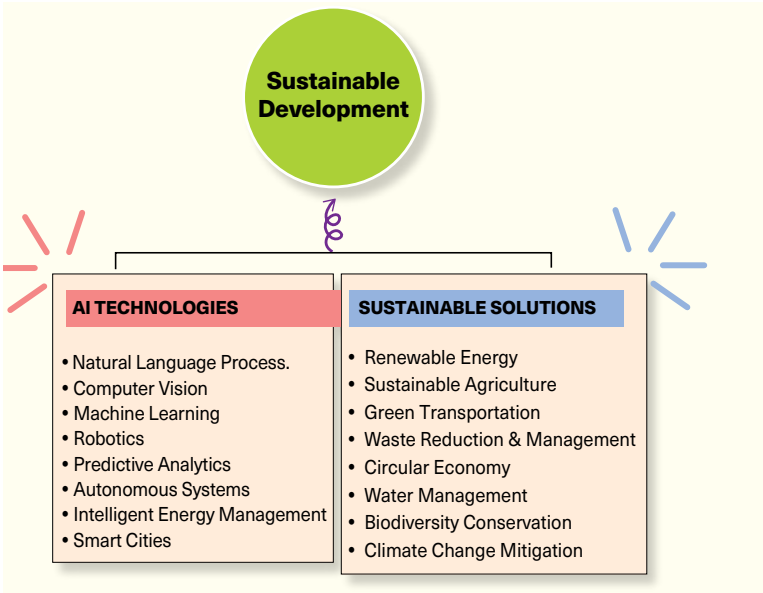

Figure 1 - Relationship between AI and sustainable solutions

Job Displacement: The applications of AI have the capacity to automate numerous tasks and procedures, resulting in possible job displacement in certain industries. This raises concerns about the social and economic impact of AI, particularly in developing countries where the transition to new forms of work may be more challenging. Ensuring that the benefits of AI are shared fairly and that workers are equipped with the skills needed to adapt to new forms of work is essential to ensuring that AI supports sustainable development positively and equitably.

How AI is used in Supply Chain: AI is being increasingly used in supply chain management to improve efficiency, accuracy, and decision-making.

Demand Forecasting: AI can analyse past sales data, market trends, and external factors such as weather patterns to forecast future demand accurately.

Inventory Management: AI can optimise inventory levels by predicting demand and identifying the right time to order and replenish stock.

Route Optimization: AI can optimise delivery routes based on traffic patterns, road closures, and other real-time data to minimise delivery times and costs.

Quality Control: AI can use image recognition and machine learning algorithms to identify defects and anomalies in products, reducing the need for human intervention and improving quality control.

Supply Chain Analytics: AI can analyse large volumes of data from various sources to identify trends and patterns that can be used to optimise supply chain operations.

Procurement: AI can automate the procurement process by identifying suppliers, negotiating contracts, and processing purchase orders.

Overall, AI is becoming increasingly important in supply chain management, helping organisations to streamline operations, reduce costs, and improve customer satisfaction.

As we have seen, AI has the potential to be a powerful tool for advancing sustainable development goals in a wide range of areas and how AI is used in the supply chain. From demand forecasting, inventory management, and toute optimization AI applications are already making a significant impact in promoting sustainability and improving Supply chain goals. However, it is important to acknowledge and address the ethical and practical concerns that arise when using AI in these contexts, such as data privacy and security, algorithmic bias, and job displacement. To ensure that AI is used in a way that promotes sustainable development responsibly and inclusively, policymakers, researchers, and stakeholders must work together to develop robust and transparent frameworks for AI governance. This includes establishing clear guidelines and regulations for data privacy and security, addressing algorithmic bias through fair and unbiased training data, and investing in the skills and education needed to support workers in transitioning to new forms of work. Ultimately, AI has the potential to be a force for good in advancing sustainable development goals, but it is up to all of us to ensure that it is used in a way that benefits society as a whole, and not just a privileged few. By embracing AI responsibly and ethically, we can create a more sustainable and equitable world for all. ●

“As companies, we have a critical role to play in delivering the **SDGs.** By working together to build sustainable supply chains, we can create a better future for everyone.”

Mark Wilson, former CEO of Aviva

A Better Business.
A Better World.
A Better You.

Unilever

"OUR SUCCESS IS BECAUSE OF OUR PEOPLE"

Ms. Rumal Fernando

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University of New Delhi.

Qualifications
BSc Hons - University of New Delhi,
MBA in International Trade and Logistics - Postgraduate Institute of Management (PIM)
Vice Chair - Branding and Sponsorships - Women in Logistics and Transport (WiLAT)
Member of Chartered Institute of Logistics & Transport (CILT)
Lead trainer for Mental Health & Wellbeing at Unilever Sri Lanka LTD

Work Experience
- Head of Customer Service & Logistics, Unilever Sri Lanka LTD (2021 till date)
- Head of Procurement Unilever Sri Lanka LTD (2011- 2021)
- Raw Materials, Packaging Materials, Indirect Materials, Capex and Contract Manufacturing Procurement (2004-2011)
- Customer Development Manager Walls Ice Cream & Modern Trade Account Manager (2002- 2004)

Interviewed by:
Dunal Bandulahewa, Nethmi Ariyadasa, Tehani Pereira,

Transcribed by:
Nethmi Ariyadasa, Amanda Fernando Tehani Pereira

Photographed by:
Seshan Premalal

Q How has Unilever's focus on sustainability and corporate social responsibility helped it to survive and thrive in the industry?

Unilever has been operating in Sri Lanka for over 85 years, and our brands are an integral part of the daily lives of Sri Lankan people. Our brands are designed to help people to maintain daily hygiene, feel good and look good. Our brands are purpose-led and have a story to tell and a promise to deliver, and we constantly strive to live by that. We are a responsible company, and in that responsibility, most of our brands represent certain beliefs.

We help Sri Lankans to smile confidently with Signal, our flagship toothpaste brand as this brand stands for a 'Cavity-Free Sri Lanka'. Unilever introduced fluoridated toothpaste to the country under the guidance of dental experts for dental problems faced by all age groups. Sunlight, our flagship brand, is always the first to lend a helping hand to serve Sri Lankans during any time of need through the donation of supplies. Lifebuoy stands for health and hygiene. During the pandemic, many actions such as the establishment of hand washing stations in public places, donation of much-needed equipment and sanitization support to hospitals, and was able to establish a strong collaboration with the Sri Lanka Police to educate people in rural and urban areas about the COVID-19 prevention actions.

Unilever and its iconic brands have always led the way in supporting the nation and rebuilding livelihoods in times of national disasters These purposeful brands, take us far in ensuring a sustainable business and work as a responsible organisation that thrives in these hard times.

Q What is Unilever's contribution in achieving the UN Sustainable Development Goals? And what goals does it prioritise?

We have adopted many strategies in our company based on the SDGs both locally and internationally. In fact, all our sustainability goals are aligned with the Sustainable Development Goals (SDGs) stipulated by the United Nations.

SDG 3 "Good Health and Well-being" - We support this cause through our brands which promote health, hygiene, vitality, and prevention of illness.

SDG 5 "Gender Equality" - Unilever has very strong diversity policies and strives to become gender balanced as an employer. Unilever Sri Lanka's Management Committee already comprises 55% of females, whilst the Senior management comprises 45% of females. Our brands such as Glow & Lovely actively work towards empowering women to take up responsibility and help them become financially independent.

SDG 10 "Reduced Inequalities" - Creating a socially inclusive world backed by strong Human Resources policies on disabilities; we recruit differently-abled persons on our shop floor and in other operations.

SDG 13 "Climate Action" - We do a lot of work around this in our factories and distribution centres through many initiatives on reducing greenhouse gasses, use of biomass fuel, rainwater harvesting, and also through plans to invest in solar investments across factories.

SDG 12 "Responsible Consumption and Production" - We try not to over-engineer our packaging to avoid over-consumption of materials. We are piloting vending machines to reduce plastic consumption, trialing the use of recycled material in our packaging to reduce our use of virgin plastics, and have collaborated with industry specialists to determine the best way to reinvest all trade returns in energy sources so that they can support us in this area.

Q What is the importance of supporting employees and service providers all around value chains, in response to the economic downturn?

Our success is because of our people, whether they work at a factory, on roads selling goods, or at a warehouse. When we say "our people", it is not only those who are directly employed by Unilever but also our logistics service providers, supply business partners, value-added service staff, and even the support staff. Therefore, it is absolutely important to make sure that what we do benefit everyone.

Unilever constantly strives to provide comfort and confidence to its large ecosystem of people, even when the company was going through a difficult period during the pandemic, we made sure that everyone adhered to all COVID-19 protocols. Although some measures were an additional cost to the company, they were implemented to ensure the safety of our people.

During the economic downturn, finding a way to survive was and remains a big concern. For some, getting daily provision was a challenge and for others mental, physical, and financial well-being was a challenge. At Unilever, specific programs were carried out to help keep our teams together during this time. We extended special inflationary support and even hired new staff which gave confidence to teams that we would be here for a long term. Naturally, these initiatives have created lasting bonds not only between the employee and employer but also with their families Therefore, caring genuinely at all times will indeed create a win-win platform for any organization.

Q "The future of work isn't just about data, robots, and algorithms – it's really about people". What is the importance of upskilling your workforce to cater to the future of work?

Supply chains are evolving very fast, with technology and Artificial Intelligence (AI) taking centre stage. Certain jobs are already becoming obsolete not merely because of AI, but because AI savvy workforce may replace a non-AI savvy workforce and therefore only new skills can keep us all relevant in the long run. Supply chain professionals must understand these changes and interpret this data for their daily operations. In order to thrive in such a dynamic environment, each of us must learn and grow throughout our lives.

Naturally, having an upskilled workforce can increase productivity, cost reduction opportunities, and competitiveness in the marketplace. As a company, we are committed to uphold the brand trust, built on the trust of our predecessors and delivering the value for money. Discharging this responsibility is a prime responsibility of supply chain professionals. For this reason, we should have a lifelong commitment to learn as many skills as possible.

"Unilever has created global partnerships with various organisations that are focused on sustainability"

Q What are your thoughts on how technology has been used to shape the future of customer service and logistics?

Unilever Sri Lanka has advanced in technology for supply chain operations as well as customer service and logistics functions. We are indeed obsessed with satisfying customers and consumers alike. This pushes us to do more to raise the bar on service mindset.

We take safety to be a key parameter which we must not compromise on throughout the value chain. Therefore, we have taken steps to create visibility and transparency in this area through digitization. Routes that our vehicles travel on are risk-assessed and vehicles are GPS enabled, through a proper transport Management System (TMS). Through TMS, we can monitor the behaviour of the driver to prevent driver fatigue and reduce the risk of accidents on long trips. Drivers have been given up-to-date training on defensive driving, through digital gaming modules which we have introduced, possibly as the first in Sri Lanka, to ensure a safe working environment.

We have developed partnership with a supplier to introduce a digitally enabled smart padlock to maintain the safety and security of goods in transit, especially during the economic downturn. This helps us monitor and ensure that we fully satisfy our customers, and also provides a detailed report to track its usage. We have also expanded into the e-commerce channel to better serve our consumers with the use of the e-platform "U-Store". We have reached a step beyond and have partnered with customers in the Modern Trade Channels and started collaborative forecasting to ensure consumer satisfaction at the purchase point. Modern Trade outlets carry less unhealthy stock levels; therefore, they are able to release cash for other business activities. We utilise Power BI tools and dashboards to ensure data is at our fingertips, which speeds up decision-making to support business.

Q What are the challenges companies in Sri Lanka face in their efforts to digitally transform their supply chains?

Digital transformation has been adopted by some companies successfully while others continue to struggle. The biggest challenge could be in changing people's mindset and making them realise that it improves efficiencies, making life much easier. Organisations must be willing to learn and invest time and money into digital initiatives.

At Unilever Sri Lanka, our digital journey started many years back and today we can reap the benefits of the same across Planning, Manufacturing, Sourcing and Delivering, the pillars of our Supply Chain. In Planning, many digital tools are used for forecasting and monitoring trends. In the Manufacturing pillar, Cobots are used at packing lines and palletizing has helped us in our efficiency improvements. Online process monitoring during production, digitally enabled auto-manning processes, and online machine performance records without human intervention have also supported to having an edge over others. In Procurement, digital price forecasting tools have helped us become closer to the market and bring in outside information at the right time to better support business. The Delivery pillar is Customer service and Logistics, which I have taken you through our many initiatives in inventory tracking and safety.

Q How does Unilever's global presence help face economic downturns and other challenges?

Economic downturn spared no one, unfortunately. Large companies suffered equally due to the high complexity of operations, and we were no exception to this reality. However, even though we are a small country, and can get easily overwhelmed by what's happening, we also can bounce back much faster.

Our global presence did help us in many ways. In many geographies and markets our diverse range of products reached different Living Standard Measurements (LSMs) of society. While this makes our portfolio more agile, it does not fully protect the business, which is why we are constantly driving continuous improvement. Despite the belief that larger organisations cannot be flexible or agile, our flexibility and agility have enabled us to be more responsive, as we learn from each other locally, and from other Unilever companies who have gone through the mill before us. This has helped us to develop more accurate forecasts and risk mitigation plans.

Undoubtedly, our continued hunger to drive cost efficiencies in the value chain helps minimise input cost of materials and supply chain production costs, as we learn from one another. We thrive on innovations and have invested heavily in R&D, which brings out insight to stay relevant, giving us products that are loved by over 75% of the population. Despite the recent challenges, we have remained resilient, protecting livelihoods and preventing product shortages.

Q How does Unilever ensure sustainability in the long run, when considering its partnerships and collaborations with other businesses?

It is not just Unilever Sri Lanka, there is a larger ecosystem dependent on our business. We comply with established rules and regulations, and we impart our knowledge and expertise so that we grow together for a long-term business. Through this, we can create and achieve resilience in our value chain, so each link can withstand the pressures that are faced on an ongoing basis. We collaborate with businesses that operate with the same agility, values, and commitment to sustainability and integrity as ours so that there is no ambiguity about Unilever standards. Unilever has created global partnerships with various organisations that are focused on sustainability, to achieve its sustainable goals and promote sustainable practices across the industry.

Locally, especially in logistics, we partner with esteemed organisations who are experts in their field, to add value to the business and create a mutually beneficial platform. We share our global knowledge so that they are better equipped to run things locally. These partnerships are supported by routine audits and enable us to take corrective action where required. Unilever has groomed many local suppliers over the decades and is proud to have become a world-class supplier in terms of safety, quality, and even responsible sourcing standards. They are now ready to not only serve the local market but are also well equipped to serve the global market, due to our strong partnerships and world-class standards.

Q Can you tell us how Unilever responds to the changing needs of its consumers, in its journey toward sustainability?

As one of the world's largest FMCG companies, Unilever has a strong commitment towards sustainability and has been vocal about it for many years. Our long-term plan prioritizes building a more sustainable business which ensures our responsibility towards the environment. We heavily invest in R&D to produce sustainable products using sustainably sourced raw materials, minimal waste and emissions, and ensuring the products are safe for both consumers and the environment. Unilever globally markets a sustainable product line called the "Love Beauty and Planet" range which uses 100% recycled plastic and is also vegan-friendly. We engage frequently with both our customers and consumers, to understand the changing needs and priorities.

We have also adopted 'Circular Economy Models' to build a more sustainable future. Some examples include reducing plastics in packaging, collecting back packaging waste from the environment through reverse distribution systems, and partnering with municipalities, and supermarket chains.

Q What are your thoughts on how Sri Lanka's supply chain should be structured to overcome the ongoing/ future economic volatility?

Sri Lanka is heavily import-dependent for its raw materials, machinery, spare parts, and packaging, and faces limited supply options due to the high cost involved. Therefore, it is very important that we shorten lead times, diversify supply bases and markets, and localize materials, whenever possible to reduce importation risks. Thus, we can avoid supply chain disruptions and boost our industry's confidence by elevating it to reach global standards.

By now, it is understood that partnerships are going to be the winning formula for any manufacturer because it is the supply partners who will take us across challenges we face daily. This will lead to stronger relationships giving way to innovations as well as greater resilience to adversity. Partnerships are formed over a period of time because they know that we are genuine about what we do and see a win-win deal.

Inventory management is important in facing external volatility. Ensuring a fine balance of not over-stocking, while being able to service the changing demands of markets and consumers, is an art. Our ability to forecast collaboratively with our customers, accuracy in demand planning, and efficient use of inventory management techniques will play a key role here.

Finally, we must invest in our people by offering on-the-job training, and help teams to acquire more digital and analytical skills. I am glad that young students like you are taking the initiative to learn about the importance of the supply chain and how it can impact businesses as well as societies. Therefore, investing in both workforce and students alike, focusing on the future and deviating from traditional degree programs, and venturing into the unknown now, will help Sri Lanka move rapidly into the future. ●

Re-engineering the Supply Chains to Combat Future Uncertainties

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Disruptions lead to uncertainties. COVID-19 created significant uncertainties, such as raw material shortages, and delayed production and distribution. Trade tensions between the US and China created a cross-border flow of goods and global supply chain uncertainties. Geopolitical events like the Russia-Ukraine war have led to uncertainties about port congestion, container shortages, surcharges, and overall supply chain operations. Significant economic disruptions in Sri Lanka led to uncertainty over the inflation trajectory, currency fluctuations, import and export policies and bans, and demand fluctuations. Temporary solutions are not enough to stand up against competing priorities and steep competition occurring between the crisis and its shocks. The Chicago Board Options Exchange's Volatility Index measures market uncertainty and spikes during highly volatile times such as the global financial crisis and the COVID-19 outbreak. While COBOE's VIX does not indicate an extreme level, it remains exalted. Is this a bad omen for 2023?

> *"Many supply chains are perfectly suited to the business's needs 20 years ago."*
>
> **Jonathan Byrnes (Professor at MIT)**

Companies should be ready to face the shocks from previous disruptions, become more resilient to future uncertainties, and also keep up with the dynamic customer demands. Nike adopted an advanced demand prediction and inventory reallocation software called "Celect" that enabled better navigation through COVID-19 and outgrew Adidas by a wide margin in both 2020 and 2021; making us wonder if it is really companies that are competing or supply chains. A study by Mckinsey & Company in 2022 states that 93% of the supply chain leaders plan on increasing the resilience of their supply chains to survive and thrive in the industry.

A PRACTICAL FRAMEWORK TO RE-ENGINEERING SUPPLY CHAINS REINTERPRETING ITS STRATEGIC ARCHITECTURE

This is vital for many Sri Lankan organisations as many economic policies are to be changed in the future with International Monetary Fund's conditions. Supply chain operating models need to be re-imagined considering new tax implementations, new trade agreements, country incentives, and omnichannel acceleration. It also includes risk-sharing approaches such as supply chain partner collaboration to identify potential risks and jointly reduce them, including risk-sharing clauses that outline accountabilities in crises. Contingency planning also plays a huge role in this stage. It is important to identify KPIs against your measurements of success and ROI by reinterpreting supply chains' strategic architecture. Porter & Gamble (P&G) is famous for their robust global risk management in their supply chains, which highly concentrates on contingency planning activities such as alternate sourcing strategies,

safety stock levels, scenarios, and collaborative planning.

Nestle is adopting a sustainable supply chain model by sourcing ingredients from local suppliers and using their digital supply chain system to provide real-time data and insights to save expenses and increase productivity.

BUILDING TRANSPARENCY AND VISIBILITY

This includes adopting practices such as scenario planning and simulations, adopting tier-n transparency through data-sharing agreements with stakeholders, and tracking your supply chain footprint to ensure alternate supply sources without geographical concentrations. According to a survey conducted by Ernest & Young LLP in 2022, increasing supply chain visibility remains the top priority among supply chain leaders for the next year. However, it remains a work in progress in 2022, as only 37% of the companies have seen increased visibility.

Although your company may have different data flows to serve business intelligence, these can be used to improve capabilities such as the Internet of Things (IoT), integrated failure prediction, forestalling supply continuity from supplier advanced shipping notices and aeration core competencies such as "Resilience360"- an AI-powered system used by DHL, that analyzes information from news headlines and weather reports to identify potential supply chain disruptions.

TradeLens is a blockchain-powered solution brought forward by Maersk and IBM. It provides end-to-end visibility to supply chain partners, including ports and customs authorities. A single source of truth is maintained, providing real-time visibility in shipments. South Asia Gateway Terminals first brought this to Sri Lanka, increasing the country's potential to transform the industry through blockchain technology and can be digitally collaborated with the upcoming Port Community System of Sri Lanka.

Currently, there is an underutilized opportunity revolving around the organic food market in Sri Lanka, and blockchain can provide the most suitable solution by being able to track the authenticity of organic food products by enabling retailers and suppliers to track food from farms to stores. Worldwide success stories include; IBM Food Trust and Nestle's partnership with OpenSC (a blockchain platform).

COMPREHENDING THE COST OF COMPLEXITY VS. THE VALUE OF VARIETY

To survive through uncertainty and thrive in the industry, companies have to balance the most valued choices offered to customers and the costs of complexity related to these choices rather than just offering an extensive range of products and services. Cost-reducing activities such as SKU rationalization and warehouse optimization can be implemented along with working capital-reducing activities such as supply chain segmentation and renewed inventory planning parameters. For example, Maersk uses AI to reduce fuel consumption through shipping route optimization.

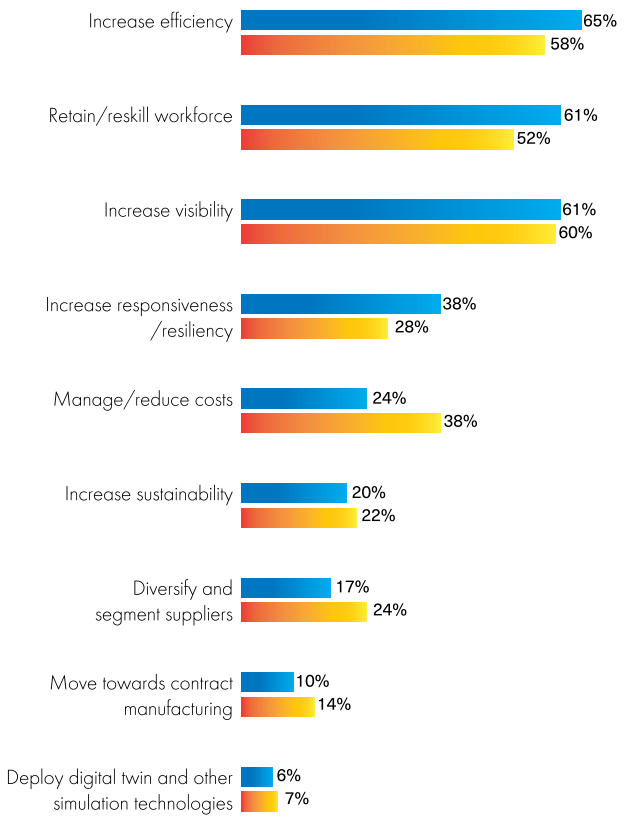


Figure 1 - Increased visibility remaining as a Top Priority over the next 12-36 months
Source - Ernest & Young. (2022)

In addition to knowing the channels and product combinations customers like, a diverse target delivery model can be established, offering better value at lower costs. IKEA's Augmented Reality (AR) delivery allows visualizing how furniture looks in consumer homes before buying, EFL's AI-powered transportation management system and a warehouse management system and Amazon's drones and autonomous delivery vehicles, Tesla's predictive maintenance and remote diagnostics that uses real-time sensor data to monitor and predict vehicle maintenances can be shown as great examples.

USING SUSTAINABILITY AS A COMPETITIVE ADVANTAGE

According to the World Economic Forum, the global circular economy will reach $4.5 trillion in value by 2030, promoting more sustainable supply chains. Sustainability contributes to the "thriving" part of this framework. As companies should adopt monitoring tier 1-3 supplier sustainability risks to ensure maximum waste and emission reduction, energy efficiency, and sustainable sourcing.

Rather than releasing a dull corporate sustainability report, the Patagonia company publicly discloses information about the journey of more than 150 individual products through their "Footprint Chronicles" from growing raw materials, distribution, energy consumption, travelled distance, CO2 emissions, and the amount of waste generated. It has built a loyal customer base and increased its long-term profitability. ●

"NAVIGATING GLOBAL LOGISTICS WITH EXPERIENCE AND ADAPTABILITY"

Mr. Denver De Livera

General Manager Commercial -
ASL Logistics CMB (Pvt) Ltd

Qualifications

The Chartered Institute of Marketing (CIM) Diploma level

Work Experience

Hayleys Advantis
- Junior Sales Executive
- Senior Executive
- Assistant Manager
- Manager of the Sales team
- Head of Sales for Agility Logistics

ASL Logistics - General Manager Commercial

Interviewed by:

Dileesha Hemachandra, Thewni Sesadi

Transcribed by:

Dileesha Hemachandra, Thewni Sesadi

Q What role does ASL Logistics currently play in the domestic and international logistics industry?

As an emerging total logistics service provider we are making a noticeable presence in the customer's mind by providing flexible & swift services in the countries we represent (Sri Lanka, Myanmar, Thailand, China and Maldives) with far superior speed in decision-making. We are expanding our portfolios strategically in areas of opportunity. ASL Logistics collaborates with selected partners globally with the intention of developing volumes in selected Trade Lanes and sectors. Our strength is our experience. We are quick to respond and avoid any language barriers. ASL is people-centric with a strong belief in our people. We believe that we have the right people with the right attitude to take this company to the next level. We have already made a mark in the domestic and international logistics industry with the experience and expertise our team possesses.

Q ASL Logistics established its South Asian Headquarters in Colombo in 2019. How has this decision made it possible to strengthen the relationship between the companies in this region?

The core team possesses a hands-on experience for more than 75 years in the industry thereby operating and setting up businesses in the areas we operate. This comes with decades of strong bonds with customers, carriers, and service providers and our fellow employees. ASL's Head office is in Colombo, and having our own offices in Thailand, and Myanmar and representative offices in Hong Kong, China, and Maldives has enabled us to take maximum exposure and cater to our clients in these strategic locations. We started our journey with just 5 employees in Colombo and now the team has grown to 40 plus. We also have 2 employees in China, four in Maldives, 12 in Myanmar, and 62 in Thailand as we are having operations in freight forwarding and Non-Vessel Operating Common Carrier (NVOCC). Moreover, 90% of the team joined from large organisations in Sri Lanka bringing a wealth of knowledge and experience. The overseas teams are also from global shipping and logistics backgrounds. We feel humbled by the fact that they chose to team up with ASL which shows their trust in us.

Q With an extensive global network, how does ASL optimise the client's goals through international trade facilitation?

ASL has its own presence in key strategic locations of key logistics powerhouse, whilst maintaining strong relationships with agents in these locations where our customers have regular logistics requirements. Promptness in decision-making and optimization of processes have resulted in a win-win mindset for our clients.

We truly envision in becoming successful in all our endeavours by thinking local but acting global. We have a leadership team that gets involved in the development, setting up processors, benchmarking best practices, evaluating KPIs, etc in order to optimise clients' goals. Two members of the BOD in Sri Lanka have worked overseas for a considerable period having a really good understanding of people, culture, and an in-depth knowledge of the supply chain in the countries where they were operating. This is the right chemistry to win customers and provide customised solutions. Going forward we want to further enhance our coverage overseas rather than focusing only on Sri Lanka. We are looking at entering markets in Vietnam, Indonesia, Malaysia, and Dubai in order to cater to a whole region in the future.

Q How do you enhance a global support network by providing a totally integrated solution in logistics offering air freight, sea freight, project cargo, and cross-trade logistics through a worldwide network of agents?

By strengthening our operational model, we offer freight management which is our core activity along with accessorial solutions to offer a total supply chain solution to the clients we serve. In early 2022, we had to swiftly change our focus from imports to exports and cross-trade. At that time,we were a predominantly import forwarder with 70% of our revenue earnings being through imports. However, when the dollar crisis hit Sri Lanka, we as a team were geared to take up the challenge and minimise any exchange loss to the company. We quickly focused on exports and cross-trade business and were successful in bringing in a healthy ratio which stands at approx. 60% to 40% imports to exports. This strategy enabled us to widen our product portfolios and cater to clients proving a totally integrated solution in Logistics. We also focus on consolidated cargo, courier, value-added service (VAS) operations and warehousing etc.

> *"ASL's Head office is in Colombo, and having our own offices in Thailand, and Myanmar and representative offices in Hong Kong, China, and Maldives has enabled us to take maximum exposure and cater to our clients in these strategic locations."*

Q How does ASL ensure a trusted carrier-shipper relationship through effective management of legal and regulatory requirements and ensure the safety of the goods in transportation?

Strong beliefs in relationships, solid knowledge and understanding of the law of the land make it easy for us to educate customers. Further, ASL provides services to global giants ensuring we always stay well within our boundaries.

Different countries have certain regulations when shipping out goods. Our operations team, with a wealth of knowledge, educates clients on the different requirements when exporting to these countries. For example, exporting goods to the USA needs the approval of the Federal Maritime Commission and thereafter filing information within stipulated times. Failure to do so will result in huge penalties. In order to cater this, we have a specialised team handling shipments only to the USA. The team is thoroughly knowledgeable even to educate clients on the regulatory requirements therefore most of our clients come to ASL for advice on freight movements. The above steps will ensure the safety of the goods transported.

Q What are your future strategies in planning to provide successful freight forwarding services to customers despite all the challenges in the local and international aspects?

ASL is growing horizontally in Sri Lanka and also in South & South East Asia. we are expanding to grow in difficult and niche markets. We are always monitoring patterns and challenges whilst making adjustments on to how we operate while challenging our internal process in order to serve better. In order to overcome the instability and challenges locally, we have shifted our focus to our overseas offices and networks to generate more and more cross-trade business. For example, China to US & UK, Thailand to other parts of the world, and cross-border Logistics. Thus when there were challenges in the local market and a huge drop in cargo volumes in comparison with the corresponding years, we were not severely affected. We also have held hands with the so-called "Big boys" in the freight business who act as partners to ASL globally. We have capitalized in filing competitive rates with the strength of these big forwarders. Further developed cross-sales and reciprocal business in order to have a solid volume running throughout the months.

It is a difficult period for everyone involved in supply chain management. With the global recession, the Russia-Ukraine war, shipping rates crashing, and other global factors it is mandatory to stay afloat. This will be possible only if companies accept change and act accordingly. We at ASL are flexible in trying out different approaches based on local and global economic trends.

Q What are the sustainable business practices that ASL has implemented over its lengthy period of existence in the industry, to its continued success?

Enriching the team's capabilities, and skills and making ASL a great place to work is one of the main objectives of ASL management and ownership. 'Build the People, Build the Business''. We consider our fellow employees as "family". In order to maintain sustainable growth, we at ASL adopt a quick change. We cannot afford to have a concrete mindset when approaching businesses. Especially with the current global economic crisis ASL maintains a flexible mindset and adapts to the changes as and when needed. We at ASL have a perfect balance on the ratios of import, export, cross-trade, and other products. We are not solely dependent on a particular product. It is of utmost importance that you have the right balance in generating revenue. These are the steps ASL has adopted in order to maintain sustainable development, growth and stands out from the rest.

At ASL we possess members who have worked overseas for a considerable period and have a really good understanding of people, culture and an in-depth knowledge about the supply chain in the countries where they were operating. This is the right chemistry to win customers and provide customised solutions. Going forward we want to further enhance our coverage overseas rather than focusing only on Sri Lanka.

Q As a general manager, how do you see yourself evolving in logistics? What are your future plans for that within ASL Logistics?

Logistics in any country is a growing industry. The supply chain process cannot operate without logistics therefore it plays a very pivotal role. My aim is to keep contributing to the industry so that in return my company and we as a country will benefit and grow. The most important thing is to overcome challenges. When faced with such situations I consult the seniors in the company and we make decisions collectively. Further, it is important to share my experience with the juniors within the company and give them the exposure to travel to the other countries and this will enable them to experience and respect other cultures.

> *"Enriching the team's capabilities, and skills and making ASL a great place to work is one of the main objectives of ASL management and ownership. 'Build the People, Build the Business"*

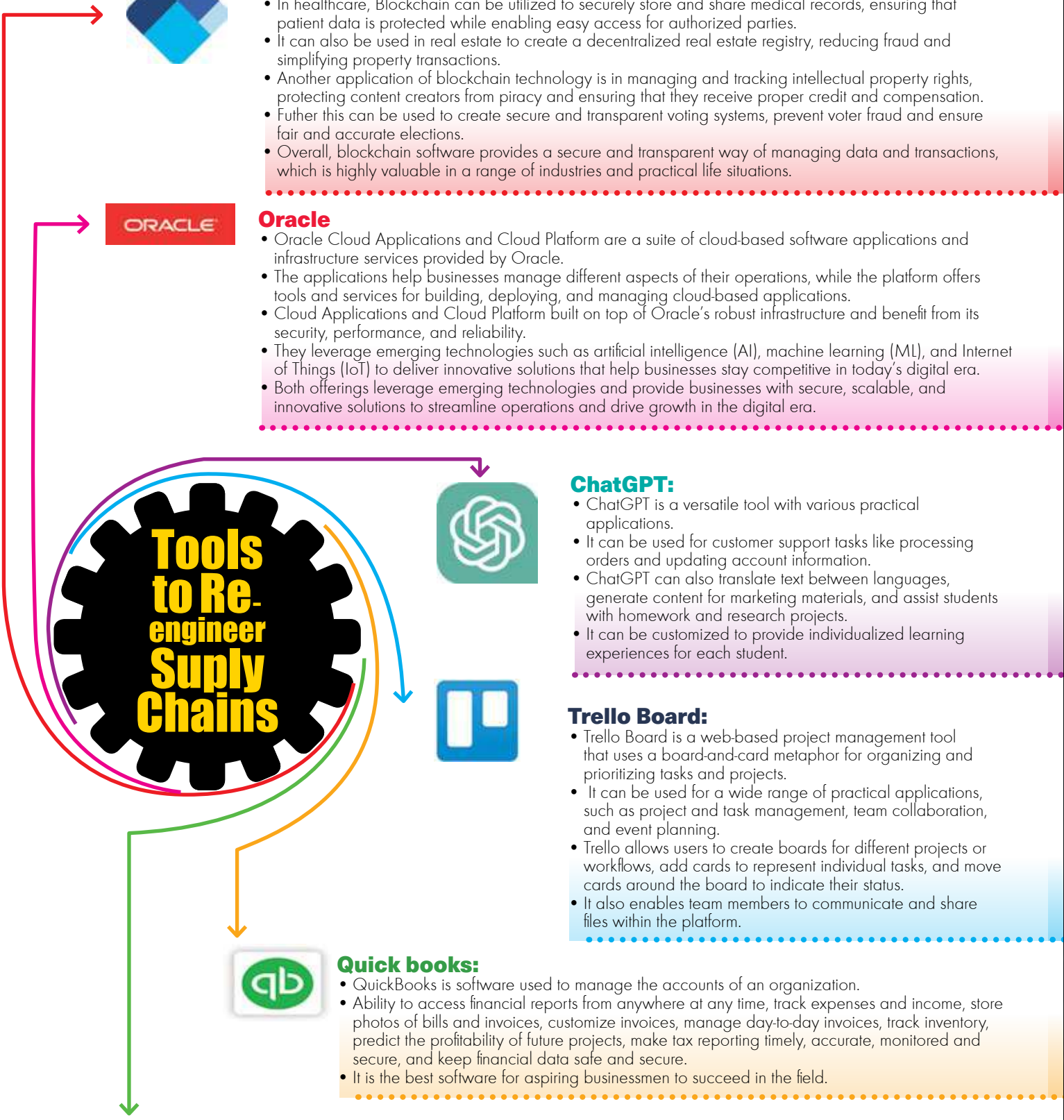
Q What are the latest digital trends in the logistics industry?

AI and blockchain is already making significant improvements in logistics and supply chains. We at ASL are making progress by setting up certain business processors to cater to certain industries. Most of the warehouses globally operate with no human touch. It is all programmed into machines that act on behalf of humans. This way they believe that error is minimum. There are also various modes of transporting goods faster using drone technology and other computer-operated vehicles. These are mainly used to distribute medicine and other related items to the African countries. The new technologies of the above nature are yet to be introduced to Sri Lanka however, it seems as a matter of time.

Q As a company operating in many countries and also as a successful freight forwarder, how do you get the advantage of the diversified network of supply chain and how do you overcome the barriers of cultural differences in order to provide quality customer service?

Flexibility, promptness in decision-making, and having a well-balanced multinational team are key to this.

I also believe in quick decision-making. We are in a field where decisions have to be made fast in order to cater to opportunities and not lose them. One of the valuable statements that I always mention to my team is that if you work in logistics and survive, you have endured one of the most challenging times in your life. In logistics, there are problems to be solved every day. That's the nature of our industry as it is a 24/7 job. Thus, problem-solving can say a lot about one's character. The key is to believe in yourself. Finally, I wish to thank the Management of ASL for entrusting me with my job responsibilities and believing in my strengths. ●



Blockchain:

- Blockchain can use for supply chain management, where it can be used to track products and goods as they move through the supply chain, providing greater transparency and security.
- In healthcare, Blockchain can be utilized to securely store and share medical records, ensuring that patient data is protected while enabling easy access for authorized parties.
- It can also be used in real estate to create a decentralized real estate registry, reducing fraud and simplifying property transactions.
- Another application of blockchain technology is in managing and tracking intellectual property rights, protecting content creators from piracy and ensuring that they receive proper credit and compensation.
- Futher this can be used to create secure and transparent voting systems, prevent voter fraud and ensure fair and accurate elections.
- Overall, blockchain software provides a secure and transparent way of managing data and transactions, which is highly valuable in a range of industries and practical life situations.

Oracle

- Oracle Cloud Applications and Cloud Platform are a suite of cloud-based software applications and infrastructure services provided by Oracle.
- The applications help businesses manage different aspects of their operations, while the platform offers tools and services for building, deploying, and managing cloud-based applications.
- Cloud Applications and Cloud Platform built on top of Oracle's robust infrastructure and benefit from its security, performance, and reliability.
- They leverage emerging technologies such as artificial intelligence (AI), machine learning (ML), and Internet of Things (IoT) to deliver innovative solutions that help businesses stay competitive in today's digital era.
- Both offerings leverage emerging technologies and provide businesses with secure, scalable, and innovative solutions to streamline operations and drive growth in the digital era.

ChatGPT:

- ChatGPT is a versatile tool with various practical applications.
- It can be used for customer support tasks like processing orders and updating account information.
- ChatGPT can also translate text between languages, generate content for marketing materials, and assist students with homework and research projects.
- It can be customized to provide individualized learning experiences for each student.

Trello Board:

- Trello Board is a web-based project management tool that uses a board-and-card metaphor for organizing and prioritizing tasks and projects.
- It can be used for a wide range of practical applications, such as project and task management, team collaboration, and event planning.
- Trello allows users to create boards for different projects or workflows, add cards to represent individual tasks, and move cards around the board to indicate their status.
- It also enables team members to communicate and share files within the platform.

Quick books:

- QuickBooks is software used to manage the accounts of an organization.
- Ability to access financial reports from anywhere at any time, track expenses and income, store photos of bills and invoices, customize invoices, manage day-to-day invoices, track inventory, predict the profitability of future projects, make tax reporting timely, accurate, monitored and secure, and keep financial data safe and secure.
- It is the best software for aspiring businessmen to succeed in the field.

SAP ERP:

- Software for business process management to create products that streamline efficient data processing and information exchange between organizations.
- Creates synchronized metrics and allows one to view shared data without manual reports.
- Integrates customers and suppliers, providing more information, higher quality, and a segmented database of customers for marketing campaigns.
- Easy, flexible, and adaptable, allowing users to access a centralized database from anywhere and from a range of devices.
- Offers higher data security, centralized and scheduled backups, and enhanced security of core business data.

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Supply Chain Transformation for a Sustainable Future: Ensuring Coexistence

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INTRODUCTION

Sustainable supply chain management has emerged as a crucial element of long-term business success and coexistence in today's increasingly interconnected and resource-constrained world. Multiple factors, such as growing concerns about climate change, resource depletion, social inequity, and altering consumer preferences, necessitate re-engineering supply chains towards sustainability. By employing sustainable practices, businesses can guarantee survival in the current global context and contribute to a more equitable and environmentally responsible world.

HOW TO DEFINE SUSTAINABILITY

The Triple Bottom Line (TBL) strategy, which weighs financial, ecological, and societal metrics, is at the heart of sustainable supply chain management. The TBL structure stresses balancing a company's financial goals with its societal and environmental responsibilities. A number of the United Nations' Sustainable Development Goals (SDGs), such as 'Responsible Consumption and Production', 'Climate Action', and 'Decent Work and Economic Growth', all have a direct bearing on supply chain management.

CURRENT STATE OF SUPPLY CHAINS

Traditional supply chains face numerous obstacles that can jeopardize business success over the long term. These include resource depletion due to excessive raw material consumption, carbon emissions from transportation and manufacturing processes, refuse generation from product disposal, and social inequity from unjust practices and income disparities. Not only do these issues pose dangers to the environment and society, but they also imperil the viability of businesses that fail to adapt to changing conditions.

THE ROLE OF TECHNOLOGY

Innovations in technology play a crucial role in promoting the sustainability and effectiveness of supply chains. Industry 4.0 technologies, including the Internet of Things (IoT), blockchain, and artificial intelligence (AI), have the potential to revolutionise supply chain management by enhancing visibility, optimising resource allocation, and minimising environmental impacts. IoT, for instance, can facilitate real-time monitoring of supply chain operations, whereas blockchain can improve transparency and traceability throughout the entire value chain. AI can be used for more precise demand forecasting and inventory management, reducing waste and emissions.

BEST PRACTICES AND STRATEGIES

Adopting circular economy principles, implementing reverse logistics, developing closed-loop systems, and encouraging stakeholder cooperation are all effective ways to re-engineer supply networks for sustainability. Best practices for environmentally friendly supply chain management can be learned from industry experts and cutting-edge case studies.

The Circular Economy: Companies like Patagonia and IKEA are implementing waste-reduction programs and creating

goods to last a long time before needing replacement or recycling.

Companies like Dell and HP have adopted the concept of "reverse logistics" HP to streamline the process of product returns, repair, and repurposing to reduce landfill pollution and conserve natural resources.

'Interface', an industry leader in carpet production, has implemented a closed-loop system that uses recovered materials in its new products, thus decreasing its consumption of raw materials and its contribution to landfill trash.

'Sustainable Apparel Coalition' is a group of leading clothing and footwear companies collaborating to establish industry-wide standards for sustainability measurement and reporting across the supply chain.

REGULATORY ENVIRONMENT AND STANDARDS

Regulations, policies, and standards greatly influence sustainable supply chain practices. Companies are incentivized to reduce trash and recycle more by Extended Producer Responsibility (EPR) laws that make them responsible for the disposal of their goods. International Organization for Standardization ISO 14001:2004 is a guideline for environmental management systems that offers a structure for companies to incorporate environmental concerns into their processes. Standardised standards for sustainability reporting are available from the Global Reporting Initiative (GRI), which encourages companies to report on their environmental and societal impact.

RISK MANAGEMENT AND RESILIENCE

Building resilient supply chains is essential for businesses to withstand disruptions and uncertainties, such as climate change, geopolitical tensions, and public health crises, and maintain their sustainability. A combination of strategies, such as diversifying suppliers, instituting robust risk assessment and mitigation processes, and investing in digital technologies for enhanced visibility and real-time decision-making, can increase the resilience of supply chains. By incorporating sustainability, businesses can develop more adaptable and resilient supply chains that are better able to respond to emerging challenges and disruptions.

Key Performance Indicators (KPIs) can assist businesses in monitoring progress, identifying areas for advancement, and comparing their performance to that of their rivals in the industry.

METRICS AND MEASUREMENT

Essentials for assessing and monitoring supply chain sustainability performance are transparent and standardised metrics. Key Performance Indicators (KPIs) can assist businesses in measuring the progress of their performance, identifying areas for advancement, and comparing their performance to that of their rivals in the industry. Social indicators such as practices and gender diversity are potential KPIs for sustainable supply chain management. By establishing and monitoring these KPIs, businesses can drive continuous improvement in the sustainability performance of their supply chains.

BENEFITS AND CHALLENGES

Sustainable supply chains offer a variety of advantages, such as cost reduction through improved resource efficiency, enhanced brand reputation due to responsible business practices, and increased long-term profitability due to increased resilience and adaptability. However, instituting sustainable supply chain practices can also present obstacles, such as initial implementation costs, complex stakeholder management, and resistance to change from employees and suppliers. While pursuing sustainability objectives, businesses must carefully evaluate the benefits and obstacles and devise individualised strategies to overcome them.

FUTURE OUTLOOK

Emerging trends, technologies, and prospective challenges will shape the future of supply chain sustainability. Renewable energy, biodegradable materials, and digital technology advancements will continue to drive supply chain innovation and efficiency. Changing regulations, consumer expectations, and resource constraints may necessitate new approaches to supply chain management for businesses. Businesses can achieve and maintain a sustainable competitive advantage by keeping abreast of these trends and embracing continuous improvement.

CONCLUSION: THE IMPERATIVE OF RE-ENGINEERING SUPPLY CHAINS FOR SURVIVAL AND COEXISTENCE

The urgency of re-engineering supply chains for sustainability cannot be denied. To ensure survival and coexistence in a world with diminishing resources, businesses and policymakers must collaborate and implement sustainable practices that promote positive change across industries. By embracing advanced technologies, adopting circular economy principles, enhancing transparency and collaboration, and prioritising risk management and resilience, businesses can save money, enhance their brand reputation, and contribute to a more equitable and environmentally responsible world. Now is the time to re-engineer supply chains for sustainability; working together, we can establish a future in which sustainable supply chains are the norm, assuring the long-term survival and coexistence of enterprises and the environment. ●

Re-engineering Supply Chains towards Sustainability in the Manufacturing Industry

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For decades, supply chains have been designed to function like Swiss watches, with inventory and capacity-optimised for ideal conditions. Companies rewarded executives who could run the most efficient operations, and every supply chain was prudently planned, with low-cost and logistics serving as crucial elements. Organisations focused solely on achieving the lowest possible cost, believing that supply chains would function perfectly. The automotive industry, with its emphasis on lean manufacturing, is perhaps the most prominent example of this approach.

The COVID-19 pandemic has exposed the vulnerability of these supply chains. As the pandemic spread in 2020, low-cost countries were severely impacted, and many are still struggling to recover. As a result of disruptions in transportation and supply pipelines, replenishing stocks has become increasingly difficult. Shipping containers from China now cost over $20,000, and supply chain delays are commonplace due to constraints in shipping, ports, and trucking. The shortage of semiconductors is a significant issue facing many companies, and Seraph's calculations based on multiple data sources estimate a combined revenue loss of $850 billion due to semiconductor shortages alone.

In that case, the consequences of these supply chain disruptions have been felt across numerous industries, with shortages of automobiles, paper towels, and even children's toys. The inadequacies of traditional supply chain strategies are being exposed by the pandemic, with many companies' supply chains failing to withstand unforeseen events. Shelves are frequently empty, and production halts and supply shortages are becoming more frequent as fall and winter arrive.

The COVID-19 pandemic and supply chain disruptions have raised concerns about whether sustainability strategies will be deprioritized in relation to the existing model, but according to Gartner research, sustainability activities provide organisations with resilience in times of crisis. It is now evident that a new approach is needed to prioritise resilience and sustainability, with supply chains that are more adaptable and better equipped to handle unexpected events. Even as "black swan" events occur, there must be room for error in supply chain strategies to ensure that companies can continue to function effectively.

The manufacturing industry contributes significantly to greenhouse gas emissions, pollution, and waste. The supply chains of the industries are also responsible for deforestation, human rights violations, and the exploitation of vulnerable workers. Therefore, to reduce the industry's impact on the environment and society, it is essential to re-engineer supply chains towards sustainability.

Sustainability is a concept that has grown in importance in the business world over the last few decades. It involves integrating economic, environmental, and social considerations into business operations. This approach

Sustainable supply chain management involves the coordination of business activities with suppliers and customers to minimise negative environmental and social impacts while creating economic value. Businesses should take a holistic approach to supply chain management in order to achieve sustainable supply chain management.

acknowledges that businesses are not just profit-generating entities but also have a responsibility towards the environment and society in which they operate.

Sustainability requires a long-term perspective that balances short-term financial results with the production of long-term value. This means that businesses need to consider the impact of their actions not just on their immediate bottom line, but also on the wider community and environment. This involves considering the potential costs and benefits of different courses of action and choosing the most sustainable option.

One area of business operations where sustainability is particularly important is the supply chain. Sustainable supply chain management involves the coordination of business activities with suppliers and customers to minimise negative environmental and social impacts while creating economic value. Businesses should take a holistic approach to supply chain management in order to achieve sustainable supply chain management. This means looking at the environmental impact of raw material extraction, manufacturing processes, transportation, distribution, use, and disposal. It also means considering the social impact of these processes, such as practices and community engagement.

There are many ways in which businesses can promote sustainability in their supply chains. For example, they can work with suppliers to reduce waste and energy use, source materials from sustainable sources, and ensure fair practices. They can also optimise energy consumption by integrating sustainability factors into business processes and leveraging digital tools to drive visibility of emissions and energy performance.

Ultimately, sustainable supply chain management is about balancing economic, environmental, and social considerations to create long-term value for all stakeholders. By taking a holistic approach to their operations and working collaboratively with suppliers and customers, businesses can play a vital role in promoting sustainability and contributing to a more sustainable future.

Therefore, considering the re-engineering of supply chains towards sustainability in the manufacturing industry, companies must adopt a holistic approach that addresses the entire supply chain's life cycle, which involves the following steps.

Assess the supply chain's current state: Companies should evaluate their supply chain's environmental and social impacts, including carbon emissions, water usage, waste generation, and practices. This assessment will provide insights into the areas where sustainability improvements are needed most.

Set sustainability goals: Based on the assessment, companies should establish specific, measurable, and time-bound sustainability goals. These goals should align with the company's overall sustainability strategy and consider the entire supply chain's life cycle.

Engage suppliers: Companies should work closely with suppliers to promote sustainable practices. This includes providing training, resources, and incentives to encourage suppliers to adopt sustainable practices. It also involves holding suppliers accountable for meeting sustainability goals and providing transparency on their sustainability performance.

Optimise logistics: Companies should optimise logistics to reduce carbon emissions and waste. This includes reducing transportation distances, optimising routes, and using low-emission vehicles. It also involves reducing packaging materials and implementing recycling programs.

Invest in technology: Companies should invest in technology to improve supply chain sustainability. This includes using data analytics to track and monitor sustainability performance, implementing automation to reduce waste and improve efficiency, and using renewable energy sources to power operations.

Promote circularity: Companies should promote circularity.

Overall, re-engineering supply chains toward sustainability and resilience is a critical step for manufacturers looking to remain competitive in a rapidly changing world. ●

"ENVIRONMENTAL SUSTAINABILITY IN SUPPLY CHAINS OF SRI LANKA NAVY"

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Work Experience

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Director General Budget & Finance
Director Naval Pay and Pension
Commodore Superintendent Logistics (Northern Naval Area)
Director Naval Victualing & Clothing
Deputy Director (Foreign Procurement)
Senior Course Coordinator Long Logistics Management Course
Captain Logistics Department (Eastern Naval Area)
Deputy Director (Special Project)
Deputy Director Naval (Logistics)
Deputy Director (Local Procurement)
Deputy Director (Welfare Project)
Aide and Personal Secretary to the Commander of the Navy

Interviewed by:

Amanda Fernando, Pavan Nirodhaka, Disni Tharuka

Transcribed by:

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Photographed by:

Tharindu Shanthi Kumara

Q How does the Sri Lanka Navy (SLN) approach supply chain management and what steps have been taken to ensure sustainability in this area?

The Sri Lanka Navy (SLN) has three levels of management: strategic, operational, and tactical. The Navy Headquarters, like every other institution, has a strategic plan and a certain structure. The strategic level infrastructure is led by the Commander of the Navy, to whom I report on all logistics issues. Our primary responsibility is to make all strategic decisions about logistics. On an operational level, the SLN has seven Commands. The logistics organizations of these Commands are led by a Commodore or Captain rank officer who is responsible for the execution of all logistics activities. Logistics Officers onboard Ships and Establishments manage tactical level logistics. When it comes to logistics operations, our line of communication can be either 'top to bottom' or 'bottom to top,' with either a 'Push System' or a 'Pull System'.

As any other government institution, SLN gets budgetary allocation through the annual budget to execute forecasted and estimated logistics operations. Efficient and effective execution of logistics operations by utilizing allocated funds is a mandatory requirement to maintain operational readiness of SLN fleet at any given time. Simply, this is the process that national resources are converted to the fighting power of the nation. Naval power is of utmost importance to any country with maritime domain in both war and peace time to ensure maritime national security. Most importantly, naval power is essential to ensure safe operation of maritime logistics where it provides freedom of navigation, Search and Rescue (SAR) and numerous other aid for commercial shipping networks while establishing law and order at sea.

The SLN staff have general understanding and well proofed mechanism to decide the level of inventories and

investigate the needs of each ship and establishment. Depending on the requests forward by our internal customers, execution of acquisition, distribution, sustainment and disposal of goods and services are the prime role of SLN logisticians. Being a strong stakeholder of safeguarding maritime environment, SLN is adhering and practicing many green initiatives in her operations to comply with sustainable development goals.

Q How does the SLN prioritize environmental sustainability in its operations and what strategies have been employed to minimize its environmental impact?

Our concern about sustainability differs greatly from the private sector because it spans a broader range of issues. Our liabilities are limitless, and they have been assumed by the military forces. To handle logistics in the Navy, we have a specific methodology, practices and standards in place. In the process of maintaining environment friendly operations, all inventories are recorded within our automated system where depreciated and defective items are disposed through systematic process while hazardous emissions are safely managed through specialized personnel.

The mechanism for reverse logistics in SLN has been established through the procedure known as the 'General 47' which is executed periodically. Other than this mechanism, SLN executes annual departmental surveys and continuous surveys to verify inventories along with our accounting system. Further, these surveys provide dashboard view for inventories lying in warehouses and related costs to be generated through them. In addition, we are conducting quarterly checks and monthly checks. Furthermore, SLN follows the standards and regulations imposed by the Central Environmental Authority and ISO Standards. Therefore, SLN is ensuring the financial and environmental obligation of goods utilize/ consume.

Q What are the long-term goals of the SLN in terms of achieving sustainability within its supply chains and what strategies have been employed to achieve them?

Protecting the territorial integrity, social, cultural, religious, and political independence of our country is our top priority. Thus, if we fail, it becomes a disaster. As I explained earlier, maintaining of combat readiness of our fleet is of utmost importance to discharge our duties. As our liabilities are

> *We must explore the enormous resources in the water if we are to thrive economically...*

unlimited and requirements are highly varied, effective and efficient execution of supply chain operations is mandatory. Our main goal as logisticians is to keep our fleet floating and operational at any given time. Moreover, maintaining environment friendly green logistics initiatives has also become another important goal of SLN.

In the military, there is no certainty about where our services are required. These things cannot be predicted because of the time constraints for response. Logistics intelligence is one of the most important sources of information in conducting military operations. Specific information systems are required for different types of military operations whereas gathering, storing and providing information for decision-making process are another goal of SLN logistics. Moreover, in order to ensure the long-term viability of our system, we must carefully identify dependable suppliers and maintain positive connections in order to facilitate successful acquisitions. Integration with government and private groups allows us to deliver our services more efficiently, despite time restrictions and a wider range of demand. In addition to all of these ways, SLN required uninterrupted material flow as another goal of logistics operations, where accomplishing and sustaining the 7Rs of logistics is the fundamental goal.

Another goal for the military is innovation. However, the military has significantly different requirements for innovation and improvisation than the corporate sector. For example, if a weapon can shoot ammo or a missile that travels one-kilometer, separate materials are necessary if it must travel two kilometers. As a result, our long-term viability must allow for improvisation and creativity. The military should be concerned about establishing long-term logistics goals.

Q What challenges does SLN face in terms of sustainability within its supply chain, and how are these challenges being addressed?

The biggest issue that the Sri Lankan Navy is now dealing with is the ageing fleet. We have restrictions in new acquisitions as a result of the difficulty in authorizing sufficient funding for military expenditure. Another major worry is the shortage of finances to buy modern technology to equip SLN as a technical force. At the same time, reaction time in modern military operations has been constrained, which has been another obstacle for military operations. These major challenges of SLN have surfaced more challenges for naval logistics operations such as providing spares and other materials for ships and system on time, maintaining responsiveness and agility in logistics operations and managing of funds shortage pressure.

To address these issues, we created a powerful decentralized procurement and storage mechanism. Furthermore, with tight supervision and timely age analysis, we are keeping sufficient stock levels at both centralized and decentralized warehouses. Furthermore, SLN examines and prioritizes her requirements in order to make the best use of limited resources. Simultaneously, SLN engages and logisticians support research and development projects to overcome existing obstacles, particularly those encountered during the ship and system maintenance process.

Q What are the steps that have been taken to ensure that supply chains are resilient in the face of environmental or social disruptions?

Environmental disruptions are natural calamities, and we had a negative experience with COVID-19 due to supply chain management resilience issues. There are two concepts: 'centralization' and 'decentralization', each with its own set of values, benefits, and drawbacks. We generally employ centralization in the military. We do not frequently use 3PL or 4PL logistics, but food, clothing, building materials, and medical supplies are exceptions. However, the military must be self-sufficient in terms of some equipment and resources, such as fuel. Because of the age of our ships and the significant lead times connected with procuring supplies overseas, warehousing and stocking are major concerns for resilience. As a result, we choose centralized systems more often than decentralized ones, with decentralized systems being employed for relatively cheap things. The nature of the items pushes us to make the same decisions.

Challenges may be addressed when it comes to resilience through delegating power. At the strategic level, it becomes quite challenging if we are responsible for every choice, since it could reduce our adaptability. As a result, we give delegation of authority into effect and grant financial authority to Naval Commands so that they can initiate and execute purchases up to certain level. Moreover, we are involved in production and manufacturing of some items using our facilities to maintain resilience and agility in our system. For example, during the protracted war against terrorism, international embargoes were imposed on our materials and equipment. In response to this, we improvised and employed our resources and improved production of some small boats, equipment and systems to overcome such challenge.

Q Sri Lanka and US militaries commenced a joint training exercise recently, called 'CARAT/MAREX', to establish coexistence between the two nations. How does this collaboration enhance the logistics capabilities of SLN?

The United States is a very friendly country, and we have kept up our strong connection with them throughout the years. They helped us in many ways and have shared their expertise and experiences with us through joint exercises and trainings. As a part of this relationship, we conduct this exercise called 'Cooperation Afloat Readiness and Training' (CARAT).

The United States maintains a highly technical and sophisticated navy with a large number of platforms. Their effectiveness, lethality, and strategy are consistently of the highest caliber. At the same time, the SLN has extensive

expertise in small boat operations and asymmetric warfare. These experiences should be shared whereas our staff and researchers are exposed to new technologies, theories, and methods through such combined exercises. These exercises have been extremely beneficial to us as an island nation with a 12-nautical mile territorial boundary, a Contiguous Zone, an Exclusive Economic Zone, and an Extended Economic Zone (EEZ) which is 27 times larger than our land. Because it is such a large region, it cannot be managed by a single party but must be done collaboratively and cooperatively. Processing this sort of technology and ships on hand, especially because American ships are dispersed all over the world, this corporation will be extremely useful in the case of a crisis or emergency. Thus, a fleet exercise like this with the US Navy or any other friendly nation addresses concerns in the areas of security, economy, social, and politics.

Q As per SDG 14 'Life below water', what are the strategies implemented to achieve these goals?

We must explore the enormous resources in the water if we are to thrive economically as a successful country in the future. The extended economic zone is almost 27 times the size of the land; Since all of this belongs to our wealth we must conserve it as part of our obligation to the nation. Thus, appropriate actions must be performed if we are to claim our rights to these maritime domain under the United Nations Convention on the Law of the maritime (UNCLOS).

The SLN is worried about two issues. The first is garbage disposal; we have certain protocols in place for instance, onboard ships must ensure that all waste is collected, cleaned, and disposed properly. The second is the prevention of crimes at sea, such as the prevention of oil spills, the disposal of rubbish into the sea by ships and harbours, illegal fishing methods, particularly in northern waters of Sri Lanka where Indian trawlers poach our seabed and use explosives to catch fish.

When it comes to catastrophes or natural disasters, we must be prepared to avoid such circumstances. The SLN willingly got involved and engaged in disaster management in the cases of the X-Press Pearl ship and the ship holding sulfuric acid that sank in Trincomalee. We also do volunteer work including clearing canals, planting mangroves, conducting search and rescue missions, beach cleaning, and coral planting, and we have already created Maritime Museums in Galle and Trincomalee. In this regard, we operate in accordance with international rules and regulations, as well as the UN SDGs.

Q Concerning 'Sri Lanka Navy's Maritime Strategy 2025'. How does this effort help to strengthen the coexistence and survival of SLN with its neighbouring countries?

Under UNCLOS Article 76, Sri Lanka has asserted sovereignty beyond the 200 nautical miles zone and into the continental shelf. To prepare for this, a policy known as the '20 Ships in 2025' has been implemented. We first purchased the ships 'Sayurala' and 'Sindurala' from India's Goa shipyard, and afterwards we got many other ships as grants from different countries. Due to the strategic location of Sri Lanka, logistics operations from all directions focus on our oceans. Many duties and obligations to SLN have arisen as a result of heavy commercial ship traffic in our SAR zone. Our first job is to protect the sea line of communication from piracy, terrorism, severe weather, and disasters, as this will protect interests of our country.

Today, Sri Lanka is one of the biggest transshipment hubs for drug traffickers. By apprehending these drug traffickers, we aid not only our country, but also the region and the entire world. Human smuggling is another threat to the entire world. With a larger fleet, we can conduct cooperative operations with foreign navies to prevent similar incidents.

Q How does the SLN seek to partner with the community by implementing projects such as "Sri Lanka Seva Vanitha Unit" to establish coexistence using the limited resources within their supply chains?

The 'Sava Vanita Unit' was established to assist our navy servicemen who were killed or injured during wartime operations. Our officers and sailors leave for missions and stay at sea for extended periods of time; sometimes they return home after months, or even years; their families must be cared for while they are away. In response, the women's component of the military, including Navy lady officers, women sailors, wives of male officers and sailors have formed the Sava Vanita Unit.

All of these women join together on their own initiative, utilizing their networks to gather as much assistance as they can for these people who are in need. They give loans, conduct preschools for the kids, produce batik, disseminate expert knowledge to ladies to start their businesses, conduct some educational programs, and give scholarships. All of this social work is conducted for the welfare of our community. If they have any specific requirements, they are brought to me, and I try my best to support them in my official capacity, as it is a very good move and it is very necessary for meeting the social responsibility of our community. . ●

"The supply chain REVOLUTION IS powered by TECHNOLOGY, unlocking new levels of efficiency and COLLABORATION."

- Jim Barnes, Founder and CEO of enVista

"MATCHING TECHNOLOGICAL CAPABILITIES TO SUSTAIN THE DIVERSE CUSTOMER REQUIREMENTS"

Mr. Sujeewa Dharmawardena
Senior Director Software Engineering R&D Supply Chain - IFS Sri Lanka

Q As a leading global software company, how has IFS optimised Enterprise Resource Planning (ERP) software to add value to the supply chain?

IFS is a company globally known for its Enterprise Resource Planning (ERP) software products, and in addition to ERP, we also focus on Enterprise Asset Management (EAM) and Field Service Management (FSS). Our product, IFS Cloud focuses on six verticals in their products namely aerospace and defence, construction and engineering, energy utilities and resources, manufacturing, service industries, and telecommunications.

In all these industries supply chain will appear as a central requirement. IFS supply chain solutions enable you to operate efficiently with complete visibility of your end-to-end supply chain.

IFS Supplier Relationship Management (SRM) & Procurement capabilities will elevate your supplier interactions and ERP purchasing procedures. Innovating in your SRM & procurement will help to streamline purchasing,

Higher Education
University of Peradeniya

Qualifications
BSc (Eng) - University of Peradeniya
MBA - University of Wales
MSc (IT) Cardiff Metropolitan University

Work Experience
Phoenix Industries
ERP Implementation Core Team - One and a half years
IFS
Various management roles in the company - 23 years

Interviewed by:
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Transcribed by:
Ransuni Thilothma, Nipun Chandrasekara

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Kasun Wijeweera

manage parts, and quickly adjust to changes in the market. Powerful planning tools will perform demand forecasting and planning for easier inventory management, improved margins and better cashflow turnaround times. Warehousing functionality will provide real-time visibility and control of warehouse data, part movements enabled with scanning devices integrated into the application. There are many more AI/ML-supported capabilities minimising user entries in the latest IFS Cloud versions.

Q How does the IFS ERP system assist its customers to streamline their business processes using the latest technology solutions?

IFS provides state of art technology-embedded solutions to customers. The latest cloud release 22R2/23R1 will provide fully automated customer order entry with optical character recognition. Our research and development teams continuously introduce fully automated functionality flows for routine tasks that take a lot of human interactions/ time. It is also enriched with advanced analytics capabilities that enable businesses to gain insights into their operations, identify areas for improvement, and make data-driven decisions. This helps businesses optimise their processes and improve overall performance.

Our central automation team will help all business application teams to introduce new functionality by adopting the latest technologies like AI/Machine learning/OCR/IoT/Digital twin.

respond quickly and effectively in a sustainable way to changing conditions, mitigate risk to protect the business and accelerate into the next phase of growth. Moreover, with our latest roadmap, we show how we offer the tools, innovations, and experiences to help accelerate the new reality by optimising people, assets, and services, connecting global operations, and achieving your ESG goals profitably.

Q As a software vendor working closely with businesses around the world, what is the sentiment of global businesses towards sustainability?

Highly positive. Customers have been showing an increased interest in sustainable capabilities and how the software can reduce their carbon footprint and zero emissions. Recent IFS events like the IFS UNLEASHED which was participated by a large number of customers have shown how our customers are expecting us to launch more sustainable solutions. Our customers understand the timely need for sustainability and the role of software in enabling sustainability. Our 'Sustainability Team', focuses on United Nations Sustainable Development Goals (UN SDGs) to be achieved in 2030. Our aim is ESG, which is Environment, Social, and Governance context, addressed by Global Reporting Initiative (GRI) standards. Our application provides many capabilities to achieve them. There is an application that can generate a report on the amount of carbon emitted and we have the possibility to develop sustainable products and eco-footprint

> *"We have started introducing new capabilities towards circular economy like the reuse of waste materials."*

Q What is the contribution of IFS ERP, giving special remarks to the global supply chain? How has this contribution facilitated companies facing global supply chain disruptions?

Every IFS Cloud release advances our commitment to deliver on our vision for an intelligent and autonomous enterprise to evolve and transform your business. Organizations across all industries want to accelerate the digitalization of their operations to achieve higher levels of productivity, business agility, and operational excellence so they can consistently deliver Moments of Service for their customers and employees. There has never been a greater need for business agility in the new reality of constant disruptions like economic instability, geopolitical unrest, supply chain pressures, or shortages, to name a few disruptions.

Business agility is a cornerstone of business resilience - the ability to withstand and recover from disruptions. However, resilience means more than a means of survival. It's about creating a durable foundation that allows organisations to thrive and grow in this new environment. IFS allows organisations to be agile and adaptive,

applications. It is also clear that not only our customers, but our other stakeholders are also demanding sustainability and our sustainability progress itself as a business. According to our energy emission target, by 2025 we are planning to move towards natural resources and natural energy sources like biogas.

Q How does IFS favour its software solutions to achieve the UN Sustainable Development Goals (SDGs) and how have the existing IFS solutions assisted businesses in achieving them?

We focus on UN SDGs in the context of ESG factors. We want to integrate sustainability into our products and strategies, allowing customers to operate with lower environmental and positive societal impact. We have sustainability goals both for the customer and within the organisation. Our sustainability team is the centralised drive to absorb common features into different applications. Also, the 9R process is adopted in developing applications, especially focused by the 'Manufacturing Team' while supported by the IFS cloud to move toward a circular economy. IFS Cloud Sustainability Hub and Carbon

Footprint Tool allow automated calculation, which is very important in decision-making. We have different business application units in ERP, FSM and EAM which focus on achieving specific ESG targets. We can forecast our next customer through our embedded innovations and keep the least manual work. We also measure our supplier's resiliency through their performance before selecting them. We especially focus on generic transportation to bring the buying and selling process together, optimising the routes, while considering other aspects like palletising which is a reusable packaging method. These are the sustainability practices that we spotlight.

Q "The Circular Economy: Step beyond Sustainability". What is the role of enterprise software in re-engineering supply chains toward a circular economy?

The circular economy encourages us to reuse as much as possible by eliminating waste. We also have incorporated re-manufacturing in the latest IFS cloud releases. We have started introducing new capabilities towards circular economy like the reuse of waste materials. This is the new emerging track that we need to develop our applications in accordance with.

Q We believe that collaboration with other industry players as a survival strategy is becoming more relevant today, to ensure continued stability in the market. What is the role of IFS in enabling this through its business solutions?

As we are not the sole player in Enterprise Resource Planning, we focus on 6 verticals, by which we market our products to provide customers with the best-suited product. Also, there are greater niche products like payroll management systems. Thus, IFS enables to plug of different application versions of niche products into the same database, facilitating coexistence. Further, within the company, we get claimed our medical expense reports through an outsourced partner. We have many partner collaborations, like Boomi software which provides greater flexibility. In addition, , our cloud versions are based on Microsoft Azure. Our databases depend on Oracle. As our customers are also handled by our partners, we ensure that partners also get benefited. In our 7-stage methodology of software development, one stage is customer engagement, where we develop our new products and applications according to customer requirements to suit their businesses.

Also, acquisitions are our continuous strategy, involving many companies like ULTIMO and Clevest, to increase our product portfolio, and some features are also absorbed by the IFS standard software (CORE). Therefore, IFS ensures coexistence in two aspects; through our applications provided to the customer and within the company operations.

Q 'Hatch - IFS Challenger - X Incubator' is a collaboration that started in 2022 to create innovative solutions for global problems with AI and Machine Language. How has this progressed to support the IT sector?

IFS collaborated with undergraduates from different universities to run their own projects with a theme on

AI and machine learning. All those projects are currently ongoing and developing. Likewise, a good partnership between Hatch and IFS was developed through expertise and interaction to create solutions, especially in the predictive modelling context and geographic information system. We are mainly focused on developing AI and ML concepts in the Sri Lankan IT sector which is more futuristic.

Q On a final note, what is the potential of Sri Lankan IT companies, in developing global supply chain solutions? And what advice would you give to aspiring graduates who would want to work in this space?

Sri Lankan IT companies have a greater potential and resources with quality graduates to develop this industry. More graduates are needed to develop this sector. As advised, you should stick to the fundamentals and take more steps to go ahead after graduating. You need to take all opportunities very seriously. Remember that the first impression developed in the first few years of your career will greatly impact the journey ahead. As an individual, you must work at your full potential to build and sustain this. ●

"LOGISTICS IS LIKE THE HEART OF A COUNTRY; NO COUNTRY CAN RUN WITHOUT IT"

Dr. Namali Sirisoma

FCILT President - The Chartered Institute of Logistics and Transport Sri Lanka

Higher Education
University of Moratuwa

Qualifications
University of Moratuwa - Civil Engineering
Ph.D. in Transportation Engineering from University of Moratuwa
Post-Doctoral Fellow in University of Calgary, Canada
Chartered Civil Engineer
Member of Institution of Engineers, Sri Lanka

Work Experience
General Sir John Kotelawala Defence University, Ratmalana, Sri Lanka
- Director Career Guidance Unit (September 2021 to date)
- Dean - Faculty of Management Social Sciences and Humanities
- Head of the Department Management & Finance
- Senior Lecturer Grade I

Aerodrome Engineer Design and Standards in Civil Aviation Authority Sri Lanka
Research Assistant in Dept. of Civil Engineering in University of Hong Kong
Research Assistant in Dept. of Civil and Structural Engineering in Hong Kong Polytechnic University
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- Senior Lecturer at the Department of Transport and Logistics Management
- Lecturer at the Department of Civil Engineering

Interviewed by:
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Q What is the role of the Charted Institute of Logistics and Transport (CILT) in the logistics industry of Sri Lanka?

The Chartered Institute of Transport (CIT) Sri Lanka was established in 1984 following the merger of the two leading professional bodies CIT Sri Lanka became The Chartered Institute of Logistics and Transport (CILT) Sri Lanka. In 2012, the Council of Trustees of the Chartered Institute of Logistics and Transport (CILT) upgraded the status of CILT Sri Lanka from a branch to a territory. The advantage of CILT is that we recognize professionals in all aspects of logistics and transport (maritime, supply chain, aviation, and land transport). CILT is a UK-based organisation that has 34 member countries. Further, CILT Sri Lanka consists of two wings namely, Women in Logistics and Transport (WiLAT) Sri Lanka and Young Professionals Forum (YPF) Sri Lanka, dedicated to the Women and Youth of the Logistics and Transport industry. There are three main pillars of CILT Sri Lanka:

A. Membership services through CILT - we provide many services for our members through professional development programs and other services. At present, we have around 2000 members in CILT and including student

members, members, chartered members, and fellow members.

B. Education services pillar - we do education programs, research and development and customised training programs that institutes require. In addition, accreditation of Logistics and transport-related degrees is done by the education pillar. We have already accredited several undergraduate degrees in Sri Lanka.

C. Events and branding pillar - CILT Sri Lanka organises several key events for the industry and for the members such as the CILT International Conference, Awards Ceremony and the Research Conference. In 2021, CILT organised the Belt and Road Initiative Conference on Strategizing for Mutual Gains from BRI in association with Yangtze-River Research and Innovation Belt (Y-RIB).

Q As the leading body of professionals in logistics in Sri Lanka, how has CILT's perception of sustainability evolved from its inception, and is there a need to re-engineer supply chains to achieve this?

The topic of sustainability is being discussed everywhere. Out of the 17 sustainability development goals that have been developed by the United Nations, certain areas directly affect the logistics and transport sectors too. Especially gender equity, education, and economic growth. Logistics is like the heart of a country; no country can run without it. It was really experienced during this fuel crisis in the country when the transport sector was affected; the entire country was paralyzed, so it is very important to identify the sustainability of the logistics operations. During the COVID-19 pandemic, the aviation industry was badly affected, passenger road transport was challenged, and they were not prepared for a disaster of this nature. In the future, we may need to face more challenges of the similar nature. Therefore, we have to be equipped with new strategies on how to survive and to ensure the sustainability of the transport and logistics sector in all aspects. CILT has got involved in policymaking and strategic planning at the national level, and we have some programs lined up that will discuss the sustainability and re-engineering of supply chains.

Q When considering sustainability based on the 3Ps concept; of 'People', 'Planet', and 'Profit' how does CILT invest in people to ensure sustainability within the supply chain? And what is its role in promoting sustainable practices?

As the main professional organisation in Logistics and transport in Sri Lanka, we always think about the sustainability of the field and how we can invest in people. We have thought of recognizing the companies that have taken steps toward sustainability in their businesses. CILT will be organising CILT awards that will be evaluated on sustainability, continuous improvements, digital transformation and customer service. We have received around 30 applications from the industry so far. These award criteria are on aviation, maritime and supply chain. CILT is taking many actions to promote sustainable practices through training, policy advocacy, education, seminars, and discussions among members and the industry.

Q As per SDG 17: "Partnerships for Goals", how important are collaboration and partnerships between stakeholders in achieving sustainability in the supply chain, and how does CILT facilitate these partnerships?

In any aspect considered at CILT, collaboration is seen among factors like teamwork as a way to reach targets sucessfully. CILT has developed collaborations with our corporate partners, education service providers, and training partners. As of the moment, CILT Sri Lanka has 29 corporate partners, five education service providers and one training partner. Corporate partners are from areas of Aviation, Maritime, Supply Chain, Logistics, Education and etc. Collaborations with corporate partners are basically a win-win situation for both parties. In addition, all 34 member countries including CILT International, are willing to work with CILT Sri Lanka when required. One example is that all 34 countries came forward to help Turkey when it was badly affected by severe earthquakes.

> *"Logistics is a field where we do not necessarily see the involvement of women. The percentage of women workforce in the logistics field is around 3%."*

Similarly, our partners closely work with our two wings Women in Logistics and Transport (WiLAT), and Next Generation (Next Gen). The CILT International Business Forum (IBF) builds the platform for the members to get connected locally and internationally.

WiLAT is a partner of Earth Hour, which is celebrated on 26th March every year. Another example is that we assisted the Lanka Sathosa in developing a rate formula to calculate the transport costs of lorries. This service was provided free of charge by CILT Sri Lanka. Similarly, we at CILT are willing to provide our support and expertise to any organisation that requires it.

Q What are the challenges that CILT faces in promoting coexistence between different stakeholders in the logistics and transportation industry?

In the context of promotion, our main challenge is to identify how CILT members will be recognized in the industry. Moreover, similar to the other professionals who require to be a member of their professional organisations to practise, CILT member qualifications are also needed to be recognized. This issue is faced not only in Sri Lanka but also in other countries. Some member countries like Singapore and Australia have already started Certified Practising Logisticians qualification among the working force.

In CILT, we strive to influence organisations into considering CILT membership requirements when recruiting staff ensuring qualified logisticians will join their organisations. However, it's not very easy to do so because of the complexity of the work culture, organisation structures, and the need for experts in different fields. When it comes to the government sector, they have a set of regulations and procedures for recruitment. Therefore, introducing this type of new qualification is a lengthy and difficult process. In the context of policymaking, Sri Lanka is far behind compared to other countries. India released a logistics policy in the year 2022, and that was considered as a major achievement for India. Two visions that have been identified are: Reduce logistics costs in India by 5% of the GDP over the next 5 years and to reach a better position in the Logistics Performance Index, around 25 to 33 place. Presently, they are placed 38th , whereas Sri Lanka is placed 73rd. Hence, to get to such a better position, Sri Lanka needs to work hard to develop new strategies, policies, etc. Though professional organisations are willing to work towards our national goals, the willingness of the government to make the necessary changes in the logistics and transport fields remains a question.

Q According to SDG 5, which speaks about gender equality, how has CILT ensured to empower and improve the status of women in logistics through Women in Logistics and Transport (WiLAT)?

Logistics is a field where we do not necessarily see the involvement of women. The percentage of women workforce in the logistics field is around 3%. CILT International has established Women in Logistics and Transport (WiLAT) in June 2013 to promote our industry to female members and to encourage and support their career development. Nigeria was the first to establish a women's group in 2010 while the WiLAT Sri Lanka was established in 2013. WiLAT Sri Lanka will celebrate its 10th anniversary this year. WiLAT is an active wing of CILT

Sri Lanka and conducts many programs in membership services, membership development, education, CSR projects, field visits and etc. This year Women's Day there was a program for female taxi drivers working under PickMe, which came out to be a successful program. However, it is required to expand our Women's services and awareness programs in the rural sector. Thus, we need to encourage more women to join careers related to Logistics.

Q Due to the wide variety of internationally recognized certifications and courses that CILT offers, there are many chances for training and learning. How does CILT tailor training and education to suit the future of work by employing updated technology?

CILT International conducts several certificates, advanced certificates, diplomas, and advanced diploma programs which are globally recognized. In addition, CILT Sri Lanka has accredited several undergraduate degree programs conducted in local universities, including KDU, University of Moratuwa, Ocean University, and NSBM Green University, one MBA in Logistics Management conducted by KDU, and one postgraduate diploma conducted by ICBT.

If we focus on the IT applications in logistics and transport, it is one area that is considered to be included in key knowledge areas of CILT education programs. Under the key knowledge areas of technology analysis, adoption, and monitoring in education programs, it is required to teach the following areas namely, selection of qualitative and quantitative methods and techniques, data collection and monitoring, analysis and forecasting, setting and achieving performance measurement (e.g. metrics, KPIs, and benchmarking), application of modelling and simulation, innovative applications of technology. In addition, modern applications of big data, blockchain, optimizations, AI applications, tracking, and last-mile delivery are also discussed. The new generations are becoming more technologically developed, and the challenges of automation and paperless systems are becoming more and more popular. It can be seen that similar to the corporate sector and some government organisations such as Sri Lanka Customs have launched "Sri Lanka Customs Compliant Economic Operator (CEO) & Authorised Economic Operator (AEO) Initiative", aiming at securing and facilitating global trade with incentives that benefit both Customs and traders. CILT Sri Lanka was nominated as the training partner of this program.

Q What are the most notable challenges that the logistics and transportation industry faces in keeping up with digital changes in the logistics sector and what steps have been taken to address these?

Digitization is a big challenge in a country like Sri Lanka because of the capital cost of developing new infrastructure systems. It needs to analyse the impact of the labour force on the digitization of systems and processes. Since logistics and supply chains need the services around the clock, digitization will definitely improve efficiency and productivity. However, there are certain areas to be concerned such as willingness to accept changes, impact on SMEs, reliability of systems, cyber security, integration of respective institutes, maintenance of systems, and regulatory frameworks.

"The new generations are becoming more technologically developed, and the challenges of automation and paperless systems are becoming more and more popular."

Q What do you think the future of sustainable logistics and transportation looks like, and what words of advice can you give to the undergraduates who are preparing to step into this future?

The world is going to be digitised, and we are moving to an era of automation and highly dependent AI systems. Without IT knowledge and skills, it will be difficult to sustain and secure your positions in the field. Groom yourselves and equip with plenty of knowledge, get exposed to industry revolutions and their future strategies. The entire world is facing an economic crisis. Hence, they may reduce their labour force, therefore develop skills to become an entrepreneur. Moreover, the flexible people always win in facing challenges. Hence, be a person with multiple skills and positive attitudes. ●

Connecting Small Scale Entrepreneurs with Large Businesses: Different Lens of Sustainable Supply Chain Practices

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In the current business landscape, the topic of supply chain sustainability has attracted a lot of attention on a global scale. A sustainable supply chain ensures that the social and environmental well-being of people and the environment are prioritised during the sourcing, manufacture, and delivery of goods and services. It emphasises reducing negative effects, advancing moral behaviour, and improving transparency along the value chain. It encourages practices at all levels of product life cycle and service delivery chains that minimises wastage of resources, energy conservation and ensures the economic value of the environment and protect the interests of stakeholders. In Sri Lanka, efforts to create a sustainable supply chain are starting to gain momentum, especially among local and international companies committed to advancing ethical business practices.

NATURE OF SMALL AND MEDIUM SCALE ENTERPRISES IN SRI LANKA

Collaborative initiatives with small-scale entrepreneurs and larger businesses can be identified as one of the emerging areas of interest in developing sustainable supply chain practices due to their contribution to empowering local enterprises economically (Khokale, 2023).

Small and Medium scale Enterprises (SMEs) have been recognized as one of the most prominent sectors for economic and social development in Sri Lanka. It immensely supports poverty alleviation through employment creation, generation of innovative products, resource utilisation, regional development and contributing to the economic growth of the country. The National Policy Framework (2015) of the National Enterprise Development Authority (NEDA) states that SMEs in Sri Lanka provide 45% of employment and represent 75% of the total enterprises in the economy. Approximately half a million (500,000) SMEs are operating throughout Sri Lanka. Today, SMEs along with other unregistered micro-enterprises together contribute nearly 52% of the GDP (Gross Domestic Production) of Sri Lanka. Around 3,000 SMEs are registered as exporters and make up 20 % of the county's export earnings (Chen & Mitra, 2020). SMEs contribute to the economic development of the country as a breeding ground for employment creation, and diversified industries, and a facilitator for innovations which directly support inclusive development (Central Bank Report, 2021). Although it is difficult to find clear categorisation of the business activities of SMEs, they are engaged in diversified types of manufacturing and services such as dairy production, farms, ornamental fish, gem and jewellery, apparel and clothing, tourism, handicraft, plantation, bakery, beauty salons, stationary production, timber and timber-based production, leather and leather-based products, restaurants, cleaning services, courier services, car rental services, pawing financial services, day-care centres, etc.

However, from time to time, the SME sector has been affected by many circumstances. Due to the 26 years of civil war, Sri Lanka failed to recognize the maximum capacity of the SMEs in the country (Nishantha and Padmasiri, 2010). The COVID-19 pandemic has interrupted economic development and social relations throughout the world. Sri Lanka also suffered in many ways due to the pandemic. One such sector

is Micro, Small and Medium scale enterprises in Sri Lanka (Gunawardana, 2020).

Nevertheless, the growth of SMEs has been obstructed by various factors such as lack of financial resources, lack of technology, absence of skilled workers, limited access to the main supply chains, etc. (Pretheeba, 2014; Nishantha and Padmasiri, 2010; Central Bank Report 2021; Gunawardana, 2020). Nevertheless, by nature micro SMEs lack the potential to absorb large losses, therefore they are highly helpless in the face of ups and downs in the business cycle and other shocks stemming from domestic and international fronts (Central Bank Report, 2021). Even prior to the pandemic SMEs have faced considerable barriers to financing progress and COVID-19 brought them down to their knees (Saba, Blanchette & Kronfli, 2021; Gunawardana, 2020).

Among them, limited access to main supply chains/markets or a lack of connectivity with large businesses can be considered the most influential challenge faced by SMEs. According to the survey findings of the Advocata Report (2020), this lacuna is further enhanced due to a lack of financial resources, technical capabilities and market knowledge, low capability in meeting quality standards, and the complexities of registering the SME or licensing. Hence, this article aims to shed light on how large businesses can collaborate with SMEs from a different perspective in practices of sustainable supply chain management for both parties.

COLLABORATING SMEs WITH LARGE BUSINESSES

Interruption in raw material supply was the major concern faced by large businesses in Sri Lanka during the COVID-19 pandemic due to many limitations in accessing countries, and import and export procedures. Besides, sourcing raw materials for large businesses heavily depends on importation which no longer generates economies of scale due to the economic downturn in Sri Lanka. To the focal company, this is backward (upstream) supply chain integration which involves the flawless flow of material, information and other inputs to the principal company. Forward (downstream) supply chain integration can be considered one of the strategies that can be deployed by the SMEs in enlarging market access which is an essential means of reducing financial losses.

Sri Lanka's small and medium-sized enterprises can play an important role in economic development and social development as well. By engaging with value chains of large companies, they can revitalise their business growth and help to enhance local community engagement creating employment opportunities.

During the pandemic period, it was observed that a few large businesses kept hand in hand with SMEs. For example, Cargills Food City directly purchases fruit and vegetable harvest from farmers in rural areas. Furthermore, Celeste Daily gathered vendors and suppliers, especially those whose fresh harvests were either stuck in warehouses or laying unused on farms. Recently Lady J – (people can purchase day-to-day products under one roof) directly purchased clay pots from rural areas which were stuck in their stores due lack of sales. Link Natural partners with local farmers to grow medicinal plants, provide seeds and financial assistance and directly purchase their harvest.

Sri Lanka's small and medium-sized enterprises can play an important role in economic development and social development as well.

On the other hand, small and medium-scale businesses usually have the flexibility and agility needed for innovations due to their localised knowledge and their competencies to find sustainable solutions which firmly match the specific context whereas sometimes large businesses cannot be able to occupy the space due to mass-scale production or strict deadlines with global supply chains. E.g. Coconut husk remover, elephant dung papers, unique and special clay pots, introducing dry foods through food preservation techniques, environmentally friendly packaging solutions, etc.

Connecting SMEs to large businesses or supplier development enhances suppliers' (SMEs) capacity and resilience through training and capacity-building initiatives and financial assistance. It enables the exchange of ideas, technical skills and best practices which drive innovations and compliance with quality standards. Long-term partnerships with large businesses foster trust and jointly address risk and challenges. Further, it helps both parties mitigate risks connected with ESG (Environment, Social and Governance) factors.

As a different lens for sustainable supply chain practices, collaboration between SMEs in Sri Lanka with large-scale businesses drive resilient and responsible supply chains on both ends. It is not only beneficial for the individual SME but also contributes to regional economic development and inclusive growth which are key requirements to present Sri Lanka. ●

Re-engineering Supply Chains towards Sustainability: The Imperative for Survival and Coexistence

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INTRODUCTION

The traditional practices of supply chains have negatively impacted the environment, resulting in excessive resource consumption, waste generation, and pollution. Businesses face pressure from various stakeholders to reduce their environmental impact and operate in a socially responsible manner. Failure to address these issues can lead to reputational damage, legal and regulatory challenges, and potential financial losses. Therefore, re-engineering supply chains towards sustainability is not only an ethical responsibility but also a strategic imperative for businesses to ensure their long-term viability and coexistence with the environment and society. This essay will explore the challenges businesses face in transitioning to sustainable supply chains, the role of technology in re-engineering supply chains towards sustainability, specific examples of how technology is improving supply chain efficiency, reducing waste, and improving social and environmental outcomes, and the benefits of sustainable supply chains.

THE CURRENT STATE OF SUPPLY CHAINS

The linear approach to production, consumption, and disposal has led to natural resource depletion, greenhouse gas emissions, and contamination of air, water, and soil. Conventional supply chains have also contributed to social inequality and exploitation of workers, particularly in developing nations with tax labour laws. Businesses that fail to address these issues risk losing money, facing regulatory problems, and damaging their reputations. Customers, investors, and regulators now prioritise sustainability and social responsibility. To ensure their long-term viability and harmony with the environment and society, companies must transform their supply chains in a sustainable direction. This is not just a matter of moral obligation; the supply chain industry must evolve.

THE CHALLENGES OF THE TRANSITION TO SUSTAINABLE SUPPLY CHAINS

Transition to sustainable supply chains is challenging for businesses due to financial constraints and a lack of awareness. Some companies may perceive the costs of sustainable supply chain practices as too high or risky in the short term, while others may not fully understand or see the benefits of transitioning. Nike and Coca-Cola are two examples of companies that have faced difficulties in implementing sustainable initiatives, such as supply chain complexity, supplier non-compliance, and high costs. However, there are also success stories and best practices that businesses can learn from. Despite the challenges, it is important to recognise the potential benefits of transitioning to sustainable supply chains.

VTHE ROLE OF TECHNOLOGY IN RE-ENGINEERING SUPPLY CHAINS TOWARDS SUSTAINABILITY

Technology is playing an increasingly important role in re-engineering supply chains towards sustainability. AI, robotics, and data analytics are just a few of the technological tools being used to improve supply chain efficiency and reduce waste, while also improving social and environmental outcomes. One example of the

AI, robotics, and data analytics are just a few of the technological tools being used to improve supply chain efficiency and reduce waste, while also improving social and environmental outcomes. One example of the use of technology in supply chain sustainability is the implementation of automated warehouses using AI and robotics.

use of technology in supply chain sustainability is the implementation of automated warehouses using AI and robotics. These technologies can be used to streamline the order fulfilment process, reducing the need for humans and minimising the risk of errors. This can lead to significant cost savings and increased efficiency in the supply chain. Another example is the use of data analytics to optimise supply chain operations. Data analytics can be used to identify inefficiencies and areas for improvement in the supply chain, such as reducing transportation emissions or improving supplier compliance. By analysing data, companies can make more informed decisions about their supply chain operations and identify opportunities for improvement. Technology is also being used to improve sustainability outcomes in product design and development. For example, the use of 3D printing technology can reduce waste in the manufacturing process by allowing companies to produce only the necessary amount of materials, while also reducing transportation emissions by enabling local production. Furthermore, the use of blockchain technology can enhance transparency and traceability in the supply chain, enabling companies to track and verify the sustainability of their products and materials. In summary, technology is playing an increasingly important role in reengineering supply chains towards sustainability, with AI, robotics, and data analytics being used to improve supply chain efficiency, reduce waste, and improve social and environmental outcomes. Specific examples include the implementation of automated warehouses, the use of data analytics to optimise supply chain operations, and the use of 3D printing and blockchain technology to enhance sustainability outcomes in product design and development.

THE BENEFITS OF SUSTAINABLE SUPPLY CHAINS

As companies begin to transition towards sustainable supply chain practices, they can experience a variety of benefits. These benefits include economic, environmental, and social advantages. From an economic perspective, it effectively captures the economic, environmental, and social benefits of transitioning toward sustainable supply chain practices. The examples of successful implementation by companies like IKEA and Patagonia further emphasise the potential benefits of adopting sustainable practices. The statement also highlights the importance of addressing the challenges faced during the transition towards sustainable supply chains. This is crucial to ensure the long-term viability of businesses, communities, and the planet. The use of technology, as mentioned earlier in the essay, can help companies overcome some of these challenges and reap the benefits of sustainable practices. Overall, this section effectively summarises the main benefits of sustainable supply chains, making a compelling case for businesses to prioritise sustainability in their supply chain practices.

CONCLUSION

In conclusion, re-engineering supply chains towards sustainability is crucial for ensuring the survival and coexistence of businesses, communities, and the planet. The current state of traditional supply chain practices is causing significant environmental and social impacts that must be addressed through sustainable supply chain practices. However, transitioning to sustainable supply chains comes with challenges such as financial constraints and a lack of awareness. Nonetheless, technology such as AI, robotics, and data analytics has made it possible to improve supply chain efficiency, reduce waste, and improve social and environmental outcomes. The benefits of sustainable supply chains are significant and include cost savings, improved reputation, reduced environmental impact, and improved worker well-being. Companies such as IKEA and Patagonia have already implemented successful sustainable supply chain practices, and it is time for other companies to follow minimise their environmental impact. ●

"RE-ENGINEERING MILITARY SUPPLY CHAINS TOWARDS ACHIEVING SUSTAINABILITY"

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- Second in Command of 5th Battalion at Saliyapura, 4th Battalion Jaffna, Base Workshop Katubedda and Base Workshop Udawalawa
- Centre Commandant of the Regimental Headquarters - SLEME
- Chief Instructor at the Sri Lanka Army School of Logistics in Trincomalee
- First Colonel Project of the Directorate of Electrical and Mechanical Engineers Army Headquarters
- Pioneer designer and project engineer of "Batteramulla Diyatha Uyana" Sri Lanka Peackeeping contingent
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Interviewed by:
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Q What is the scope of the operational and administrative logistics handled by the Army logistics command?

The Sri Lankan Army is divided into three parts: Combat arms, Combat Support arms and Combat Service Support (CSS) arms. Combat arms consists of the fighting troops. Combat support arms consists of artillery, armour, signals, and mechanized infantry. Combat service support, which is the area specialized by myself, is where the logistics services are supported to the entire Army. Combat service support splits into three categories: Technical and Financial support, Operational logistics support and Logistics admin support. Operational and admin logistics support has eight regiments which are called service and logistics regiment. All admin logistics support will be carried out by the regiment headquarters which will be monitored by the

Army logistics command. Operational logistics includes a service regiments in their respective headquarters which will be commanded by the Forward Maintenance Area (FMA) commanders.

Q What is the importance of handling military logistics efficiently for the operations of the Sri Lankan Army and what are the new strategies that have been implemented?

Since the environment is changing the Army logistics strategies will also have to change. In a military operation except the tactics, every other thing includes logistics which is the management of resources and services. Every military operation depends on the resources and services available to them. Any operation has a spectrum of wars which includes peace time, war time and operations other than war (Covid-19). Before planning the operation commanders at all levels must think of his resources and services availability. Moreover, the commander must plan for the logistics reserves. Planning an operation greatly depends on the availability and reserves of logistics resources and services at various levels. Therefore, the Army gives a lot of importance to their reserves.

Q How does the Sri Lankan Army approach supply chain management and how important is sustainability to the Military supply chain?

In the Army, supply chain management is known as the Combat Service Support (CSS). In an Army operation, there are three levels: tactical level, operational level, and strategic level. Tactical level (Forward Combat Zone) is

where the forward part of a theater of military operations extending from the front line to the forward boundary. Operational level (Rear Combat zone) is where the store houses and factories are located and they send commitments to the strategic level. Strategical level is where the main decisions are taken when commitments from the operational level arise. All the experts are in the strategic level as they will have to make crucial decisions on allocating resources based on the strategies. Therefore, when making decisions to use the resources and reserves, they will be focusing on sustainability as sufficient resources and reserves must be maintained to win the war and also for future wars.

Q What practises are currently being implemented by the Sri Lankan Army to ensure sustainability in logistics operations?

The following are the measures taken by the Sri Lankan Army. A standard scale is used which has information on how much resources that will be needed in specific areas of the Army and only those number of resources will be provided for that area, nothing more which saves resources. Moreover, a fuel management system is executed to monitor the fuel usage within the Army and to introduce some fuel saving methods. A new barcode system is also implemented to support the above process. Furthermore, Army has centralized control where the number of limited resources in the Army are monitored and regulated when they are supplied for work, making sure these resources are saved as much as possible.

Q How do you balance the need for sustainability with other priorities, such as cost- effectiveness and operational efficiency?

The Sri Lanka Army has developed procedures to balance sustainability and critical requirements in combat situations. The CSS Commanders have been given decentralized power to execute operations at various levels with flexibility. The principles of CSS, namely Foresight, Economy, Flexibility, Simplicity, Cooperation, Protection, and Logistics Intelligence, are vital for effective operations. Flexibility is particularly important as resources must be provided at the right time and place. The decentralized power enables immediate decisions to be made at various levels. Clear command and control systems in CSS help balance sustainability with other priorities. Precise doctrines for CSS are available to educate the commander and provide clarity. The Sri Lankan Army has a comprehensive CSS training system to meet the requirements of any organization. While specific training systems are not available, the Army can train individuals for any requirement.

Q Technology enables us to create new advantages and opportunities. What are the steps that the Sri Lankan Army has taken to further employ technology in its operations such as procurement, maintenance, and facilitating military transportation?

The Sri Lankan Army is a complex organization that is spread across the country, and it requires various applications of technology to manage its operations effectively. The use of technology must be flexible enough to accommodate the constantly changing operational requirements in the Army. We are applying various technological systems to streamline its operations. These systems include the Strength Management, Resource Management, Fuel Management, Army websites, Patient Management and Pay and Record Management System. SL Army is yet to implement Tender Procedure, Stores Management System and Transport Management System together with the Fuel Management System.

Q What are some challenges that the Sri Lankan Army has faced in restructuring the military supply chains with technology, in response to external challenges such as the current economic crisis and high-risk environments?

In recent years, the Sri Lankan Army has been facing numerous challenges related to the restructuring of its military supply chains. One of the significant challenges faced by the Sri Lankan Army is the complexity of the CSS system. The CSS system is a critical component of military supply chains, its complexity is attributed to the numerous interrelated processes involved in logistics, maintenance, and procurement operations and any disruption in one process can impact the entire system. Another significant challenge faced by the Sri Lankan Army is the limited manpower available for restructuring its military supply chains with technology. The government's decision to stop the recruitment of new employees has limited the Sri Lankan Army's ability to hire new talent to implement new technology. This has made it challenging for the Sri Lankan Army to find qualified personnel for implementing new

technology. Another significant challenge faced by the Sri Lankan Army is new infrastructure requirement. As an example, the big explosion in our headquarters in 2016. After that incident, we had to operate from a small office, which was not suitable for our needs. Recently, we managed to build a new headquarters with the available resources, which has helped in improving our operations. The introduction of technology involves a high cost, which is another significant challenge faced by the Sri Lankan Army. For instance, implementing a new computer system requires installing new computers and equipment, which can be expensive.

The Sri Lankan Army is restructuring the entire Army, including logistics, to reduce manpower and resources by streamlining operations and eliminating redundant organizations and headquarters. This includes a new "Concept of Logistics Operations" which will serve as the foundation for CSS planning. This will involve the establishment of logistics commanders at each SFHQs, which will serve as the central point for logistics planning and execution. In addition to these changes, a new inspection plan is being developed to ensure that all logistics operations are carried out efficiently and effectively.

Q How does the Sri Lankan Army prioritize and management of limited resources within the supply chain to sustain the survival of the nation and economy?

The Sri Lankan Army has implemented effective procedures aimed at achieving a balance between sustainability and the increasing demands of critical situations. The limited availability of vehicles in the Army has necessitated the adoption of measures to optimize their usage. The vehicles are allocated to multiple requirements to minimize costs and reduce wastage. Furthermore, the Sri Lankan Army has decentralized the power of execution to various levels, providing flexibility in decision-making processes. This has enabled a more efficient and effective use of resources in critical situations. In addition, the Army has implemented a clear command and control system, which ensures the smooth flow of information and facilitates decision-making processes. To further enhance the capabilities of the commanders in the Army, precise doctrines are available to provide guidance and clarity on the execution of tasks. This ensures that any doubts are cleared, and a uniform approach is adopted in executing critical operations. In addition to that, the Sri Lankan Army has established a comprehensive training system that ensures the continuous development of the skills and competencies of its personnel. This system ensures that the personnel are adequately equipped to handle any challenges that may arise in critical situations, making the Army a formidable force.

Q How does the Sri Lankan Army partner with organizations, institutions, and its communities to sustain the survival of the supply chains of this nation?

Sri Lanka Army has a well-developed system of obtaining and giving assistance of other organizations for combat service support. We co-ordinate matters with sister services through office or Chief of Defence staff and Ministry of Defence (MOD). Moreover, we co-ordinate matters with Sri Lanka Police through MOD. There are many agents of foreign companies who work with the Army in supply and service sector. In addition, we manage our combat service supply through different companies in difficult countries. The Army is supported by a wide range of local suppliers and service providers. Combat service support is provided at some local and foreign institutions.

Q As experienced during the period of the COVID-19 pandemic, no nation can stand alone in withstanding unforeseen global challenges. How does the Sri Lankan Army partner with other nations to sustain effective logistics to survive such situation?

Army has a large amount of logistics reserves ready for operations. Those were used to support the nation during the Covid-19 pandemic. Furthermore, as a unique organization and as defender of the nation, Sri Lanka Army is ready to sacrifice any resource belong to them for the nation at any cost. We started immediate treatment centres, ICUs with a large number of additional beds and other items within minimum twenty-four hours. (Ex: Kandakadu Rehabilitation centre). Also, Army provides assistance to Ministry of Health through Research and Development by proceeding much equipment. The management of Covid-19 centres is one of the greatest CSS operations during peace time.

Q The Lakviru Sevana is managed by the Seva Vanitha Army Branch and has an outlet of the Seva Vanitha Bakery, a hand-loom saree store and a handicraft store which displays the products made by disabled war heroes. What is the aim of establishing such businesses what are your long-term goals regarding them?

Army has established many rehabilitation centres for disabled troops and among these troops there are people with unique abilities. They are employed by the Army as a measure of welfare to produce certain items which are required mostly by the Army and for the civilians. Army Seva Vanitha unit is established to partially look after the welfare of Army families and also the welfare of disabled troops. Combining the efforts of both, Army has arranged such outlets to give the maximum welfare for any families, disabled troops and every servicing troop.

Q What are the long-term goals of the Sri Lanka Army in terms of achieving? sustainability within its supply chains and what strategies have been employed to achieve those goals?

As long-term goals we plan to do continuous restructuring of CSS system pair with Army restructuring to ensure the operational readiness of troops. We hope to have a technology-based CSS system with self-sufficiency. As our strategies, I can mention about, the publication of Army Sustenance Doctrine for year 2020-2025 and implementing the restructuring of Combat Service Support. It will help to achieve our long-term goals and we conduct Revision of Army Sustenance System in every 5 years. In addition, comprehensive CSS troops plan, Research and Developments and Restructuring of CSS Organization are also included. ●

Document Management System:
Re-engineering of Internal Supply Chain of Document Handling in the Government Sector of Sri Lanka

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Documentation and communication are important elements of the supply chain. They are still paper-based in most of the government sectors in Sri Lanka. Paper-based documentation and communication in the government sector leads to inefficiency as it wastes human resources by involving unnecessary transactions/ daily activities. One of the best options to increase the efficiency of the government sector is to re-engineer its internal supply chains by Documentation Management Systems (DMS) that stops its human resources from being involved in unnecessary transaction activities. The purpose of this article is to describe how DMS could re-engineer the internal supply chain of government sectors bringing about operational efficiency.

A survey regarding maintaining paper-based documentation in a traditional organisation reveals some exciting information. They are: 70% of the time of the assigned staff was spent on processing papers, 90% of documents were papers, 7.5% of the documents were lost, 15% of the documents were misplaced and 30% of the documents consisted of obsolete information. Another survey revealed that professionals spent 500 hours annually in reviewing and routing files and another 150 hours looking for incorrectly filed documents. When the valuable time of human resources is spent on these unnecessary repetitive activities, it is not ethical to expect productive outputs from these human resources, especially in the government sectors. Rather than blaming the employees of the government sector, the available paper-based documentation and communication system is one of the main reasons that compel them to be less productive. Therefore, a better alternative system is desperately needed by the government sectors to re-engineer their internal supply chain that could enable the human resources to spend their valuable time on productive work to increase the operational efficiency of the government sectors. One such reengineering alternative is Document Management Systems (DMS). A DMS is a computerised system used to store, share, track and manage files or documents.

The Sri Lankan state university system is taken as the case study in this article to explore the importance of implementing the DMS. State universities in Sri Lanka are the best places that can play an exemplary role to implement DMS in their daily activities as all the state universities in Sri Lanka are having separate units (such as the Centre for Information Technology) to tackle all the computer and information technology related issues of the students, academic staff, and administrative staff to carry out their daily routine activities in the university smoothly. In addition, most of the state universities in Sri Lanka offer degree programs at both undergraduate and postgraduate levels in the fields of Information Technology, Information and Communication Technology, Software Engineering and Computer Engineering etc.

Most paperwork is carried out during the communication between academic staff and the high-ranking officials such as Registrar, Bursar, and Vice-Chancellor. For example, if a lecturer wants to go abroad for a research conference,

approval needs to be obtained from the respective Ministry or Department that the university is attached to. To get the approval, there are many documents that need to be submitted in print form. The documents include a cover letter addressed to the Vice Chancellor, an application for conference leave (university purpose), an application form for foreign visits (Ministry purpose), an application form for leave out of Sri Lanka (Ministry purpose) and an application form for prior permission to be obtained by public officers to travel abroad (Ministry purpose). The lecturer prepares a file that contains all these forms along with the signed cover letter. The lecturer visits the Head of the Department and informs him/her about the lecturer's intention to go abroad. Then the Head of the Department signs the documents and forwards the request of the lecturer to the respective Faculty Dean. At this point, the Management Assistant (MA) of the respective department keeps a copy of all the documents in the file and registers them in the Department's Outward Register. Department Peon takes this file and hands it over to the MA at the Faculty Assistant Registrar's office. The same process of entering in the respective Outward Register, the peon of the respective division carrying the file to the next level is repeated until the file gets approved and sent back to the lecturer. This internal supply chain of passing the documents is lengthy and consumes more paper and time for the human resource. This affects the output of the entire value chain. Therefore, the internal supply chain of documents needs re-engineering.

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Alternative to the above process, a possible mechanism to re-engineer the internal supply chain of documents is the DMS. In DMS, the lecturer signs in using his/her university email ID. He fills out online editable PDF files already existing in the systems. Upon successful submission of the documents, the lecturer and the HoD get an email notification. HoD signs in and approves the request of the lecturer. Likewise, all the other parties in the chain such as Dean, Deputy Vice Chancellor, Registrar and Vice Chancellor get an email notification upon the approval of each party below respectively. The systems allow the parties to reject the file if there are any concerns. That also will be notified to the lecturer and the below parties in the loop. Then the lecturer can take the necessary action to edit the documents. The final decision is received by the lecturer by email notifications. Likewise, DMS can be well utilised for most document-handling purposes. DMS helps save time and energy of human resources and saves papers too. DMS is just a simple re-engineer of the internal supply chain of documents among the university systems.

Re-engineering the supply chain requires delegation of powers aimed at saving resources and increasing productivity. As government sectors are governed by certain legislation, the Electronic Transactions Act No. 19 of 2006 facilitates using electronic documents and electronic communications for official purposes. In addition, the Presidential Secretariat has issued a circular numbered SP/SB/01/13 dated 09 October 2013 that encourages the use of Electronic Documents and Electronic Communication for Official Use. Therefore, government sectors especially universities are empowered to use documents electronically for their official purposes within the legal boundary. Therefore, DMS can be well explored in government sectors.

In addition, universities can be pioneers in implementing DMS by developing their own systems. These projects can be given to undergraduate students for their semester assignments. Then they can develop more specific and user-friendly DMSs. Therefore, government sectors especially universities can re-engineer their internal supply chain for handling documents by DMS. This is encouraged by the Government of Sri Lanka. Usage of DMS in Government Sectors in Sri Lanka can be well started by state universities in Sri Lanka. Using DMS in government sectors helps to reduce the total operational cost. The more the reduction in the operation cost, the higher the operational efficiency of government sectors. ●

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Re-engineering the Legal Supply Chain through the Integration of Artificial Intelligence and its Impact on Other Supply Chain Operations

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2023 started with the emergence of reliable artificial intelligence such as ChatGPT as the solution to creating first-class assignments, coding, and a potential replacement for high-paying jobs. This game-changing technology has taken a significant leap in its development and is revolutionising the way companies manage their supply chain operations, from demand planning to logistics. Artificial intelligence has sunk its roots in the supply chains of most industries and has begun to significantly improve efficiency, reduce costs and provide sustainable outcomes for clients.

The legal industry is one of the most critical sectors, constantly subjected to the evolution and embracement of technological advancements to enhance its operations. Despite this, the industry, like many others, has traditionally relied on a linear supply chain model in which law firms have served as the primary service providers to clients. This model has proven to be inefficient, costly, and slow to adapt to changing market conditions. To draw parallels with other industries, the supply chains of the legal industry must be re-engineered.

The legal industry experiences an influx of data from various sources, including court documents, legal briefs, and regulatory filings, among others. Due to this, law firms find it challenging to extract valuable insights from such data efficiently. This can be resolved through the application of AI, which would support legal firms in processing data and extracting useful insights. This would allow law firms to make smart decisions, improve their processes of operation, and gain a competitive edge. In turn, the benefits reaped by the legal industry with the use of such advanced technology can positively impact the supply chains of other companies.

Artificial intelligence has the potential to play a ground-breaking role in various legal supply chain processes, including contract management, legal research, and litigation support. Contract management and analysis are crucial parts of the legal supply chain. By using natural language processing (NLP) algorithms, AI-powered tools could be integrated to review contracts, identify key terms and clauses, and extract crucial information such as payment terms and obligations. This would significantly reduce the time and effort required to review contracts by streamlining the contract review and negotiation processes, enabling legal teams to focus on more complex tasks, which would reduce costs and improve efficiency. This adoption and application of such technology by one company can have a positive impact on other companies in the supply chain. This could create a ripple effect leading to streamlined operations, improved communication, better risk management, and a more level playing field.

Legal research involves searching through vast amounts of lengthy legal documents and case laws to find relevant information, which is a time-consuming and costly task for most law firms. By using machine learning algorithms, this process could be automated to support legal firms by identifying relevant documents, analysing the content, and summarising the key findings. AI can assist businesses in

The application of AI to the legal supply chain is transforming the way in which legal services are delivered and impacting the supply chains of companies.

staying informed about the evolving regulations and laws that may have an impact on their supply chain operations. AI can also help businesses cut legal costs by automating research and analytical operations, allowing them to allocate resources more effectively. Additionally, AI can assist companies in identifying and monitoring legal risks and compliance problems in the supply chain, allowing for proactive mitigation of legal concerns. The use of AI in legal research can ultimately help businesses have a more reliable, law-abiding, and cost-efficient supply chain.

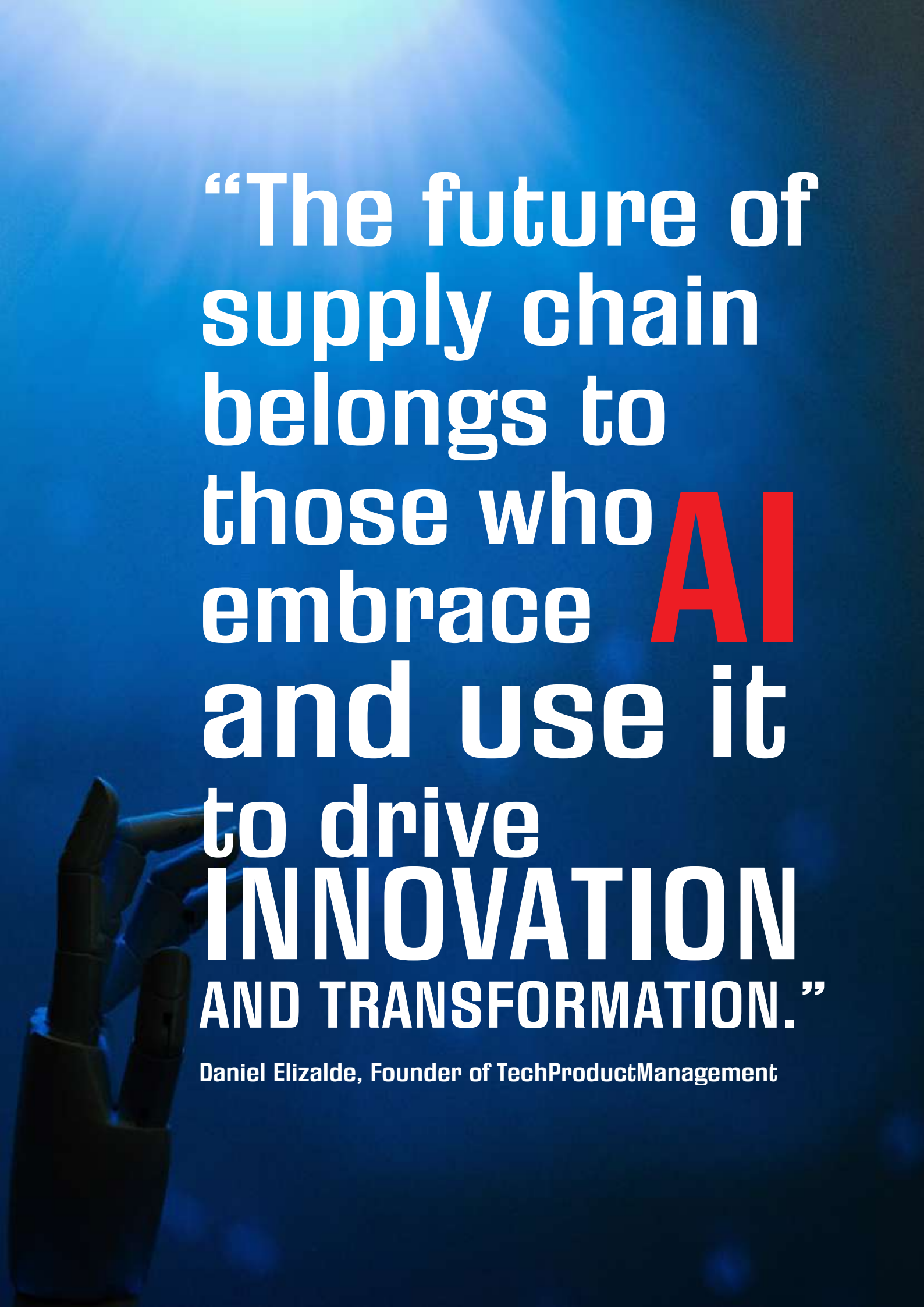
By incorporating artificial intelligence into the supply chain process of litigation support, the legal industry could greatly benefit. One such instance where artificial intelligence could be used is to predict the outcome of legal cases based on previous cases with similar facts and characteristics. This would help legal teams better prepare for their cases, increase their chances of success, and reduce the time and resources spent on litigation. Predictive analytics would help lawyers make more accurate risk assessments and inform legal strategies. With the use of AI in litigation support, the supply chain of businesses may be impacted. The supply chain of businesses may be impacted by the use of AI in litigation assistance. AI-powered e-discovery technologies, for instance, can assist businesses in streamlining the discovery process, lowering the time and expense necessary for litigation. This can help businesses manage their resources more effectively, reducing supply chain disruptions. AI can also assist businesses in the analysis of huge amounts of data, including communications and financial records, to spot patterns and trends that may be pertinent to legal proceedings. This can assist businesses with better case preparation, boosting their chances of winning and lowering their legal risks. Overall, the application of AI in litigation assistance can help make the legal process more effective and efficient, minimising supply chain disruptions and allowing businesses to focus on their core operations.

AI can be used to detect and prevent fraud in legal transactions, such as mergers and acquisitions. This could be done by allowing AI to analyse large volumes of financial and legal data, including contracts and agreements, to identify discrepancies or irregularities that may indicate fraudulent activity. By detecting suspicious patterns and behaviours in supplier contracts and financial transactions, AI-powered fraud detection systems can assist businesses in minimising the risk of supply chain fraud. AI can also assist businesses in developing rules and practices for fraud prevention that are more successful, decreasing the risk of fraudulent acts. Businesses may guarantee the stability and dependability of their supply chain by lowering the risk of fraud in legal transactions.

It is anticipated that AI's influence on the legal supply chain will increase as it develops. AI, for instance, can be used to predict the results of court proceedings, assisting attorneys and businesses in making more educated choices about their legal approach. AI can also be used to analyse contracts and identify possible risks and opportunities, giving businesses the information they need to make more informed business decisions.

AI-powered fraud detection systems can assist businesses in minimising the risk of supply chain fraud.

In conclusion, the application of AI to the legal supply chain is transforming the way in which legal services are delivered and impacting the supply chains of companies. Although there are some challenges that need to be addressed, applying AI to the legal supply chain has several advantages. Companies that adopt AI in their legal processes are likely to see improvements in decision-making, accuracy, and efficiency, which will ultimately lead to better and more sustainable business performance. ●


“The future of supply chain belongs to those who embrace AI and use it to drive INNOVATION AND TRANSFORMATION.”
Daniel Elizalde, Founder of TechProductManagement

"REWRITING THE NARRATIVE OF SUPPLY CHAINS FOR A GREENER AND RESILIENT ECONOMY"

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Q What are the current challenges faced by the supply chain in Sri Lanka's economy?

The disruptions to global supply chains witnessed last year were profound, primarily due to the unprecedented impact of the pandemic. The functioning of supply chains, including those in the agricultural sector, experienced significant disruptions. However, over time the, supply chains demonstrated adaptability and resilience to endure the challenges posed by the pandemic. Moreover, economic crisis and the implementation of import control regulations further added to the difficulties faced by many firms. For instance, a gazette issued last year imposed restrictions on essential items required for the smooth operation of the supply chain, leaving numerous companies grappling with the consequences. Although the situation has gradually stabilised to a certain extent, the current state of the supply chain is confronted by a new set of challenges. The demand for certain items at the retail level has diminished due to the high cost of living and inflation, thereby impacting the overall supply chain. Furthermore,

> *The concept of net-zero emissions and the reorientation of supply chains towards sustainability are driven by the global and consumer demand for responsible and eco-friendly products.*

the global supply chain has encountered various shocks, with the Russia-Ukraine conflict being one of the most significant disruptions. This conflict disrupted the availability of fuel and agricultural inputs, affecting several countries including Sri Lanka. Consequently, the global supply chain shock reverberated throughout the Sri Lankan supply chain, contributing to the rise in prices

Q What kind of economic policy changes or incentives could be implemented to promote sustainable supply chain practices, giving special remarks to the apparel sector of Sri Lanka?

Sustainability is a broad concept, particularly within the agricultural industry where it encompasses the entire supply chain from farm to table. From the farmer's perspective, sustainable practices involve reducing the carbon footprint, utilising organic materials and ensuring a sustainable supply chain for products such as bananas. The driving force behind sustainability in the supply chain is the global demand, especially in Europe, where consumers, particularly from younger generations, seek ethically sourced and environmentally-friendly products. This consumer demand has led to a willingness to pay a premium for products that have been sourced sustainably and ethically. Additionally, there are regulatory frameworks in place, such as Europe's 2030 Green Deal that set targets and encourage sustainable practices. The apparel industry, particularly in Sri Lanka, relies heavily on the US and European markets, where brand-specific products, such as Nike, Lululemon, and Victoria's Secret, hold significance. These brands must demonstrate deep commitments towards sustainability to meet the consumer expectations. For apparel firms, sustainable practices at the exporting level such as renewable energy utilisation in production facilities have become paramount. The concept of net-zero emissions and the reorientation of supply chains towards sustainability are driven by the global and consumer demand for responsible and eco-friendly products.

Q How can we ensure transparency and traceability in the Sri Lankan supply chain to promote sustainability?

In Kurunegala, there is a textile-selling company called Selyn that also operates stores in Colombo, specialising in the production of batiks, sarees, and other traditional garments highly sought after by tourists. However, with the decline in tourist arrivals during the pandemic, the company sought new avenues for growth and expansion. One of their key strategies involved exploring the potential of exporting their products. In order to establish a compelling narrative and ensure sustainability, the company formed a partnership with a Blockchain company in Europe and collaborated with several designers. Through this collaboration, they incorporated traceability features into their textiles. For example, a consumer in Europe can now trace the origins of a particular garment, such as a batik bag, and verify if the artisans involved received fair wages. This transparency is made possible through the implementation of Blockchain technology. The success of this innovative approach was exemplified by a recent case study featuring Selena, the daughter of the company's owner, at Seyln Textiles. This case study highlights the significance of blending traditional, authentic Sri Lankan businesses with advanced technology, enabling them to access new markets and thrive. It serves as a compelling example for other Sri Lankan brands, emphasising the importance of embracing such traceability and technology-driven strategies to ensure their survival and expansion into international markets.

Q How do government policies impact the sustainable supply chains of an organisation from an economic perspective in terms of imports and exports?

It affects companies because they always think of investing in supply chains. For example, if a company wants to invest in e-mobility solutions, they might consider investing in an electric lorry or might go green by placing solar panels on a factory rooftop. Thus, the company does not have to deal with too many emissions. Likewise, this policy is really important to not just provide a sustainable supply chain in an organisation itself but to be very consistent because oftentimes, an inconsistent policy is what has been the issue for Sri Lanka and is the main reason why the country is facing an economic crisis. Sri Lanka does not have a stable economic policy. This has affected the investments that come into the country, because every 3-4 years the tax rates are prone to change or incentive structures differ hence, investors are confused and reluctant to invest in Sri Lanka. There are not many genuine investors who invest in the country thinking about the long term. Thus, consistency is a crucial factor and we need to consider facilitating different incentive structures via the government to generate a kind of investment in green solutions for the benefits of a better supply chain.

Q Considering the economic crisis in Sri Lanka. What are some or some of the most promising strategies for promoting sustainable economic development in Sri Lanka? What is your opinion on that topic?

The biggest promising factor is the fact that the country is more open to sustainable finance and climate finance. Right now, the country has a different framework that allows the central bank to follow a program called the green taxonomy, which is very important for banks and other institutions to understand the viable areas to invest in solutions through the Board of Investment (BOI), the Sustainable Development Council of Sri Lanka, and United Nations Development Programme (UNDP). Sri Lanka must follow and develop a sustainable development investment map, which is a global rule for a lot of other countries such as South Asian, Latin American and African countries where it helps to show sustainable project areas in which investors can come and invest. Sri Lanka has projected potential for energy, waste management, or healthcare-related pharmaceutical sectors. As a result, there exists a lot more willingness to cut into those kinds of markets in the country itself. Hence, we can see a lot of activity happening in this area compared to how it used to be a few years back when it was just pure capital or pure bank loans.

Q How can the government of Sri Lanka encourage and support private sector investment in sustainable initiatives, particularly in sectors?

The main scenario is that the supply chain key sectors must be helped. One way of doing so is through investing in the energy sector. The government has a 70% renewable energy market which forecasts a potential for 30% renewable energy to exist by 2030 which includes hydropower and the remaining 40% comes from solar and wind. Therefore, staying on that path is important because a lot of sectors that are globally integrated, from the ports to even apparel industries, need to be able to be intact with the principals or their customers. However, it is critical for a government to be consistent in the plan of encouraging renewable energy, reformation is required within the existing structure of the electricity board and in particular, formalities that exist today need to be restructured.

The other method would be the investment in the transport sector. The country has a very skewed transport policy that promotes private transport and this is because Sri Lanka does not have good public transport or lacks the factors that promote public transport. Here, a business model is followed to encourage people to have their vehicles whereas if you consider countries like Singapore, it is a higher cost to drive your vehicle in the city. Hence, discouraging the use of your vehicle. Thus, if we are thinking of ways of making new investments, we need to make sure that we do so mainly in sustainable areas, which could be other sectors in the country such as agriculture, health sectors, culture and tourism.

“Sri Lanka has projected potential for energy, waste management, or healthcare-related pharmaceutical sectors.”

Q What measures can be taken to promote peaceful coexistence and social cohesion, and how can these be integrated?

This refers to the interaction between sectors and the supply chain. For example, the port sector cannot progress towards a net-zero target, if the supply chain does not have a similar vision. There needs to be a good sync between all sectors, and a syncing of it quite early on. Especially in making the best use of opportunities, where companies or even governments and the private sector through public-private partnerships. It is necessary to make those investments early on, and do not wait till the last minute. As most companies have their own SDG targets, and these require a lot of investment, which in this current climate is difficult to think of. However, when we think in the SDG perspective, you can achieve these targets and thus, ensure cohesion and partnerships forming. ●

"UNLOCKING SRI LANKA'S POTENTIAL: JOINING GLOBAL VALUE CHAINS FOR SUSTAINABLE ECONOMIC GROWTH AND DEVELOPMENT"

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Q How did global value chains begin and how did Asia become the centre of it?

During the industrial revolution, most of the countries started their manufacturing in their own country. At the end of the 20th century, companies realised that if they can manufacture parts and components in countries that can produce them the cheapest, they can achieve the same level of efficiency at a lower cost. Three things made this possible. The first one is

the rapid reduction of trade barriers across the world, including tariffs and other non-tariff barriers. Secondly, the rapid cost reduction of shipping goods due to containerization and lastly the cost reduction of communication due to the development of Information and Communication Technology (ICT).

As a result, the proliferation of global production networks happened where mostly Japanese, American, European, and Korean companies started investing in different countries to manufacture their products. Asia became the centre of these global value chains where most of the Asian countries first joined with Japanese value chains and later with Koreans. With China becoming the factory of Asia, it became a vibrant hub for these global value chains. We continue to work hard so our business contributes to these goals and monitors the future potential of the company

Q Can you describe why it is important for Sri Lanka to connect with global value chains and how other countries improved their trade by doing so?

Over 40% of the exports of most East and Southeast Asian countries are value chain-related trade, such as electronics and automobiles. They were able to achieve this rapid growth in their exports mainly because they were part of global value chains. In contrast, Sri Lanka's exports of electronics and automobiles, which is not a part of their value chains, account for less than 10% and this is because it has failed to connect with these global value chains. In the early 1990s, Sri Lanka and Vietnam, both lower-middle-income countries, were at the same level of exports (USD 3 billion). Vietnam was able to increase its exports to USD 335 billion by 2021 whereas Sri Lanka's exports increased only up to USD 13 billion.

Vietnam achieved this rapid growth by becoming an important partner of global value chains, whereas Sri Lanka was not able to do so. Another example is Thailand, which became the world's 10th largest exporter of automobiles mainly by being able to become a major manufacturing hub for Japanese car makers. Sri Lanka, unfortunately, was not able to attract investments from large electronic and automobile manufacturers from Asia and the West. As a result, Sri Lanka's exports have experienced sluggish growth in contrast to its peers in Southeast Asia. In the 2000s, Sri Lanka's Exports as a percentage of its GDP were around 30% and Vietnam's were slightly above 40%. Today, Sri Lanka's Exports as a percentage of its GDP is 13% whereas in Vietnam it is about 92%.

> *"...Invest in trade facilitation, that is to simplify, streamline and automate its export and import procedures to make them more efficient, effective, and transparent."*

Q At present, why are global value chains moving out of China to the Indian Subcontinent and what is its impact on Sri Lanka?

There are several reasons why the companies are considering moving some of their production out of China. The first two are related to building resilient supply chains and the third is the desire to lower the cost of production.

Before the COVID-19 pandemic, value chains were created by companies whose primary objective was lowering the cost of production. After the pandemic, they came to know their supply chains were vulnerable. When certain regions like Wuhan in China were closed due to the Pandemic, the other countries' automobile firms could not operate properly because they could not get the parts and components needed for production on time. This continued to happen across China and the world, as the pandemic expanded. At that point in time, the companies realised that they have not invested enough in supply chain resilience. Further, COVID-19 was a wake-up call for manufacturers to relook at the risk of being over-reliant on a single destination like China for the majority of their production.

The second reason that created a greater focus on supply chain resilience over cost, is the growing geo-political tensions between the US and China. President Donald Trump increasing trade barriers for China, which is a major player in the supply chains and other economic sanctions, increased the risks associated with over-dependence on China.

The third reason is the increasing cost of labour in China with the country becoming a middle-income country. Therefore, China has become less attractive as a lower-cost destination for manufacturing when compared to the past, and most companies were considering moving out of China even before the pandemic and the rise in geopolitical tensions.

However, no single country can replace China and it is still a very important market for most of the electronic and automobile producers. Therefore, these companies are trying to reduce the risk of being over-reliant, by moving part of their production out of China to diversify their supply chains. The countries that have been attracting these investors are Vietnam, Thailand, Malaysia, and India, Bangladesh which have become alternative destinations to China. This is now known as the 'China plus one Strategy'.

India is closest in size to China, and it has surpassed China to become the country with the largest population in the world. Further, it has a much younger population compared to China and labour costs are lower. As a result, India has become an attractive destination for Multinational Corporations (MNCs). Unfortunately, in

this map of alternative Asia, Sri Lanka has not been identified as a potential location for these companies to invest. If Sri Lanka wants to increase its exports, it is important for the country to see how it can benefit from this shift in Global Value Chains to South Asia. This is an opportunity Sri Lanka must not miss.

Q What factors are important to attract MNCs looking for new investment destinations to Sri Lanka?

In global value chains, firms must move their parts and components between factories located in multiple countries at lower cost and lower time. So, the cost and time are very critical factors in determining the adequacy and the safety of the investment location. Taking steps to reduce the cost and time of trading across borders is known as trade facilitation. The import and export procedure in Sri Lanka is more complex and manual and as a result, the cost and time of trading are higher in Sri Lanka compared to most of its Southeast Asian neighbours. Even though the Sri Lankan government has been trying to automate the board agencies since the early 1990s to make trading across borders more efficient, they are still largely manual. Sri Lanka should invest in creating efficient and effective import and export procedures to attract more export-oriented investors to the country.

"If Sri Lanka wants to increase its exports, it is important for the country to see how it can benefit from this shift in Global Value Chains to South Asia."

The other area Sri Lanka has an advantage due to its location is the ability to provide shipping and logistics services to global manufacturing firms moving to South and Southeast Asia. For a considerable time, Sri Lanka wanted to become a logistics hub in Asia, but with little success. Some of the drawbacks which Sri Lanka faces are the limited number of state-of-the-art logistics parks and warehouse complexes. This prevents companies from being able to provide value-added logistics services such as packaging, consolidating, labelling, quality checking in Sri Lanka.

Q What can Sri Lanka implement to benefit from the new opportunities?

One important aspect is logistics and transport services. The Port of Colombo has a geographical advantage in logistics and transport. Unlike Sri Lanka, Singapore became a developed country by investing in the only natural resource they had, which is the location of their country to become a major transport and logistics hub for global multinationals. In contrast, the Port of Colombo has failed to live up to its potential. However, the shift of global value chains to South and Southeast Asia provides a new opportunity to attract the MNCs if it gets its act together.

The other is to invest in trade facilitation, that is to simplify, streamline and automate its export and import procedures to make them more efficient, effective, and transparent. The resulting lower cost, time and enhanced transparency will help the country to attract investments. ●

The Role of Circular Supply Chain Model in the Process of Forming Green Supply Chains

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The global economy is traditionally based on the principle of the linear economy: produce, use and throw away. This mode of operation generates a huge amount of waste and is not sustainable in the long term. In order to become more sustainable, industries around the world are adopting practices that support a circular economy. Companies are now investing in sustainability initiatives that aim to reduce waste and minimise carbon emissions.

Circular economy is based on three principles as; reduce, reuse and recycle. The circular economy also encourages repair, sharing, restoration and remanufacturing. Compared to the linear approach, this mode of operation generates less waste and promotes optimal use of resources. The circular economy minimises the use of resources, reduces waste and decreases pollution and carbon emissions. Their goal is to extend the use of products and equipment over long periods to enable the most optimal use of valuable resources.

Increasingly, industries are integrating circular economy principles into their supply chains to promote sustainable practices. The circular economy supports sustainability initiatives that promote energy efficiency, focus on sustainable product packaging, emphasise the use of alternative fuels and the optimization of shipping routes, and push for sustainable management. Sustainability guarantees for earning better returns. For example, consumer packaged goods companies are now committing to making all of their packaging from recyclable or reusable materials which minimises the total cost of production.

In the circular supply chain, all raw materials are recycled and reused in manufacturing. In this way, the raw material is reused in the production process and used to make a different product. Reusing materials eliminates waste and reduces the carbon footprint. The initiative to support the circular economy through the reuse, renewal, reuse and recycling of materials helps to build a sustainable supply chain.

Lately, green operations have become a priority for almost every industry. As the amount of waste generated increases each year, it is now imperative that industry and consumers choose products that have the smallest possible environmental footprint. Consumers are becoming more aware of their purchasing decisions and, according to a Nielsen report; the majority (66%) of them are even willing to pay more for sustainable products. Therefore, companies must also become aware of the environmental impact of their operations and align with the sensitivities of their environmentally conscious customers.

In any business, the prices of raw materials influence the total cost of manufactured goods and, by extension, business budgets. Companies constantly struggle to manage their budgets, especially when commodity prices experience volatility. In circular supply chains, companies can effectively manage their budgets and control costs by monitoring how much recycled material can be reused in the manufacture of new products.

In the circular supply chain, all raw materials are recycled and reused in manufacturing. In this way, the raw material is reused in the production process and used to make a different product. Reusing materials eliminates waste and reduces the carbon footprint. The initiative to support the circular economy through the reuse, renewal, reuse and recycling of materials helps to build a sustainable supply chain.

the supply chain inefficient. When a new product is made, the old one is disposed of in a landfill. Even leftover raw materials are disposed of as waste in landfills.

On the other hand, in a circular supply chain, all raw materials used are recycled and reused in the manufacturing process. Here, raw materials are reused and used to make another product. By reusing and repurposing material, circular supply chains help eliminate waste and minimise the carbon footprint of the manufacturing and consumption processws.

By recycling used material, circular supply chains promote recycling at scale, enabling the most optimal use of materials, helping build a sustainable supply chain, and saving costs for the business.

Globally, businesses and governments are now working together to drive the adoption of practices for the manufacturing, consumption and disposal of sustainable products. In this direction, companies are implementing

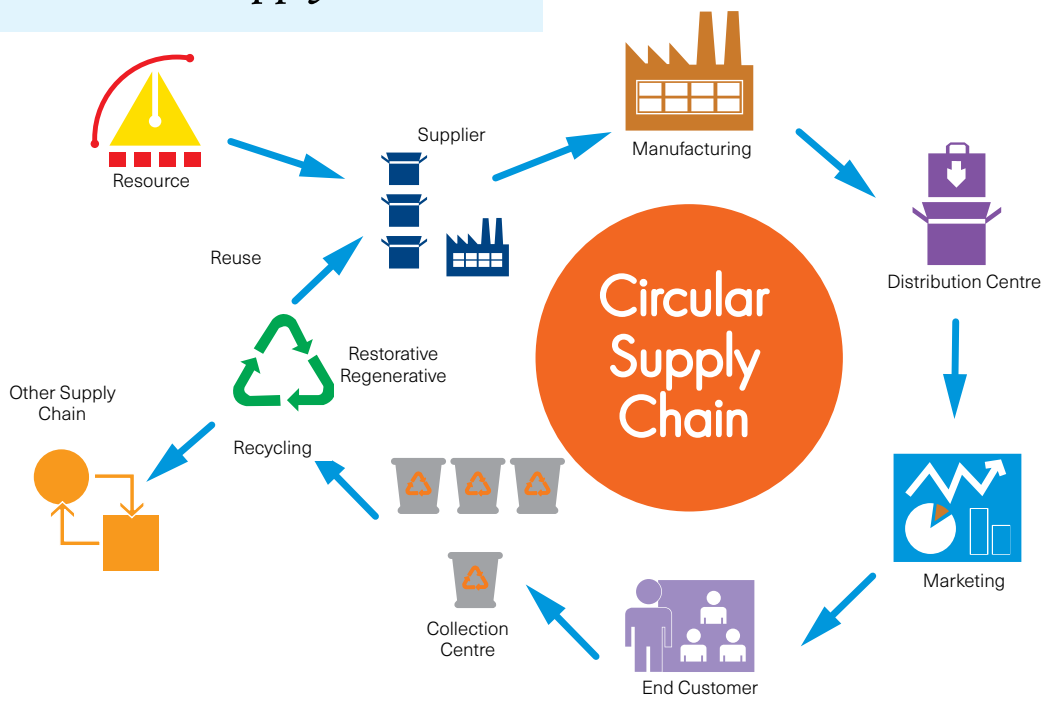

Figure 1 - Circular Supply Chain
Source - Shahsavani, Iman & Goli, Alireza. (2023)

More and more governments are developing policies that expect companies to implement circular supply chain management that requires the recycling of materials and efficient waste disposal practices. Governments are also encouraging "green" initiatives by companies to reduce the environmental impacts of their production and distribution activities.

A linear supply chain is a direct path, from raw materials to manufacturing and disposal. In the linear supply chain, the consumer discards the product at some point. This makes

circular supply chain practices, reusing products after they have reached the end of their useful lives instead of disposing of them in landfills.

Consumers are also participating in this effort by actively supporting sustainability by choosing products made by companies that follow green production processes. The government, for its part, in addition to enacting laws mandating the adoption of green practices, is also encouraging their increased adoption. ●

Responsible Production: The Forgotten Precept

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Only a tiny portion of the ecosystem of the world is still accessible to people. After years of triumph, loss, and estrangement, humanity has reached a point when it is almost too late to renounce its universal duty to safeguard the world. It is in this epiphanic moment that the UN's Sustainable Development Goals (SDGs) come to life. In this article, we discuss Goal number 12 of the 17 Sustainable Development Goals - "Ensure sustainable consumption and production patterns", as mentioned in the SDG established in 2018, and the extent of its reception.

Environmental degradation has emerged as a critical threat to world biodiversity due to the fast development of industrialization in recent decades. The many industrial sources of pollution have a cumulatively harmful influence on world health; as one of the SDGs, production, and consumption responsibility is a crucial and fundamental determinant of the long-term viability of almost all industries in the world. Emission of Carbon Dioxide into the air space, radioactive waste materials contaminating usable, inhabitable waterways, and the dumping of non-recyclable waste in massive dumpsites are major examples of various forms of pollution resulting from the production and consumption process of almost all industries of the world. As one of the SDGs, production and consumption responsibility comes as a vital and core determining factor of the longevity of planet Earth. It is proposed that nations alter their show practices to conform to the Sustainable Development Goals of the United Nations, which pertain to ethical production and consumption.

Economic growth is identified as the driving force behind improving a nation's prosperity. This will determine the level of financial, health and structural security of a nation. It is a primary motive to attain economic growth while simultaneously protecting and preserving the environment. Here the environment can refer to both the natural ecology and the quality of life of a country's population. China is a prominent example of a state that needs to accomplish the SDGs appropriately. China boasts the world's biggest industrial metropolis and the world's second-highest GDP at USD 17 Trillion. The amount of waste disposed of each year is roughly 249 million tons. This waste gets released into the air, the sea, and large-scale dumpsites in China. This makes the environment uninhabitable. The latest statistics from the UN- Environmental Program show that fine particle pollution caused 1,423,633 deaths in China. China accounts for 27% of global carbon dioxide emissions. Another 20% of the population were victims of ischemic heart diseases that arise due to the inaccessibility of clean, fresh air. It is an inevitable fact that China is developed in every aspect, however, it is advanced at the cost of the quality of life. These repercussions of China's manufacturing violate the SDG of responsible production and consumption, jeopardising its people's environment and safety.

Industrial and human waste pollutes more than half of the world's navigable rivers. The situation caused by the shortage of clean drinking water is intensifying, with factory

Sustainable production methods including purification, proper waste disposal and sustainable supply chain functions do not fall under the highest national priority for third-world nations, as their economy depends on survival and not on development.

waste lines being directed into waterways and oceans, denying clean water to underdeveloped countries. To counter these problems the 1st world nations are already engaging in large-scale industries that are required to send all waste through an initial treatment process to ensure that the waste discharged is not toxic to the biodiversity. However, in many countries which are economically underdeveloped this treatment and waste management process comes as a massive financial challenge. Sustainable production methods including purification, proper waste disposal and sustainable supply chain functions do not fall under the highest national priority for third-world nations, as their economy depends on survival and not on development. Therefore, these nations tend to inevitably create an unhealthy environment for themselves thereby contributing negatively to Sustainable development.

It is this under development due to the lack of resources that brings about the need for foreign investments and aid from more developed nations and various global organisations. Nations with more resources and technical prowess can constantly maintain novel waste management, logistical operations, and supply chain practices. Here they can enhance their production further through recycling and even creating by-products thereby creating a new market chain altogether. Their infrastructure and technology make it possible for faster attainment of the SDGs. The lack thereof in less developed countries makes it impossible to achieve this stance, firstly the lack of infrastructure and the resource knowledge for such massive projects come as a problematic aftereffect. The mitigation of this is possible only with the proper allocation of funds, especially for research and development in the fields of waste management and upcycling. Nations that are challenged in this manner should first and foremost establish strong, scientifically accurate policies that can systematically regulate industrial-level waste disposal. Environmental protection and responsible manufacturing methodologies should be one of the many national interests of states if not the most important one. So, developing nations might adopt "homemade" remedies to safeguard their natural resources and environment. A country may attain this level of security via waste reduction measures, yearly evaluations for pollution prevention, research, and innovative implementation of eco-friendly policies.

Nations with more resources and technical prowess can constantly maintain novel waste management, logistical operations, and supply chain practices.

Q What does this all imply for Sri Lanka?

Sri Lanka has innumerable resources and we do not take good care of them. The carbon emissions, water pollution, and the massive dump sites that go unrecycled all should receive the due attention that has been prolonged. To establish a responsible production environment in the country that will benefit all life, it is vital to recognize these resources as transient, develop national policies, and enforce stringent restrictions to control industrial waste emissions. It is our collective responsibility to work towards protecting this world, and it all starts at home. It starts with you. ●

"TRANSFORMING AIR FORCE SUPPLY CHAINS FOR A BETTER FUTURE"

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Photographed by:
Gaganaka Kalhara

Q What is the role of the Directorate of Logistics of the Sri Lanka Air Force and its contribution?

Logistics at Sri Lankan Air Force (SLAF), begins from the most minute item such as a pin to the point of purchasing an aircraft and extends to all ranges of purchases. It also includes all activities such as storekeeping, store management, provision and stock control, that are handled by different sections, under the Directorate of Logistics. For that purpose, Officers are trained and qualified in all streams related to logistics and other rankers qualified in different specialised fields and under the trades such as suppliers, caterers, ground stewards and air stewards for hospitality management duties in messes. Also, we got refuelers, who deal with the refuelling of aircraft and uniform outfitters specialised in sewing and stitching of military uniforms. When considering the role of logistics in the Air Force, the process differs from that of the Army and Navy. In the Air Force, all activities related to logistics are handled by the Directorate of Logistics.

Q What is the role of the SLAF in logistics activities in the domestic and international domains?

Both domestic and international logistics are applicable to the Air Force. It is basically a combination when considering the purchases related to aircraft and air assets. For such purchases, we mainly deal with international markets, thus, purchasing, procuring and repairing are done by means of foreign demands. Most of the items related to repairs and services of air assets are not available within our premises, i.e. they are not indigenously manufactured or repaired in Sri Lanka. In such situations, we need to procure them from the international market. Hence, SLAF has categorised its procurement into two separate sections, such as local and foreign purchasing.

Being a technical force, Airforce mainly deals with foreign procurement, as our main task is to keep our air assets flying and for this purpose, we need to depend almost 99% on the foreign market. Other domestic matters such as building construction, automobile maintenance, and other related issues, are handled locally. Other than aircraft purchases, all the security cargo such as bombs, explosives, ammunition, and precision-guided weapons are purchased from the foreign market. Our fuel and lubricants are purchased from Ceylon Petroleum Corporation, a certain portion of our lubricant products are purchased from the foreign market. For example; our aircraft require different types of oil and lubricants which must be purchased from foreign sources.

At the same time, a smaller percentage of our clothing items and accessories for uniforms are also imported, as there exists a lack of resources within the local market. Even for electrical and electronic items such as radio sets and electronic devices, we need to depend on the foreign market.

Q As supply chains are dynamic and constantly changing due to the advancement in technology, is there a need and if so, how does the SLAF restructure with the advancement of technology?

Technology is an integral part of the Air Force. Being a technical force, the Air Force always adopts the latest technological advancements to gain benefits. Therefore, we need to make frequent changes in our procedures and service patterns. As an illustration, let us assume an aircraft named 'X', was purchased from a foreign source, and we maintain that based on their manuals, but there may be a situation where the operator of some aircraft in another country comes across a defect which we have not experienced. In such situations the manufacturer. will once again issue a special set of instructions known as the service bulletin and based on that all service procedures would need to be changed. To fall in line with the change we need to go in for certain structural, instrumental and system modifications to prevent such defects in our fleet.

This is rather a simple way of illustrating how SLAF adapts to changes through technological advancements and is a mandatory requirement for a continuous improvement process.

Q What is the importance of maintaining sustainability while coping with the cost of sustainability within the supply chains of SLAF?

When talking about the aspect of sustainability, there should be a readily available flow of supplies. This is the major driving source behind the aspect of sustainability.

Keeping inventories in large quantities is no longer cost-effective, since it requires a considerable cost and man hours involved, making it uneconomical. Based on this, SLAF has established a procedure in which we select sources which are reliable for us, ensuring sustainability. Keeping that in mind, we target only the manufacturers and authorised vendors, who are very reliable and trustworthy. Furthermore, they are bound to give us spares when in need, ensuring a readily available flow of supplies or stocks. However, the present economic crisis that prevails in the country is an issue for the smooth flow of this procedure.

Further, sustainability and cost-effectiveness can be ensured by having multiple vendors and creating a competition among them. For instance, when we have multiple vendors, depending on the requirement that arises, we will have to focus on the most suitable and economically viable source. Thus, giving more priority to the requirement than the cost.

Q What are the sustainability practices currently existing in SLAF?

Every year, we ensure that different types of requirements are categorised and a request is made for supplier registration. Afterwards, the suppliers who have the capability, capacity to meet our standards, and ability to meet our requirements, will register under the various categories of requirements at the beginning of a respective year. For instance, if a need arises to purchase a certain product, we send quotations only to that pre-qualified and registered list of suppliers that have the capability of satisfying our requirements. As aforementioned, we shortlist the best suppliers based on their capabilities and ability to meet our specific requirements and select the most suitable supplier. Through this process we get a readily available group of suppliers, where the numbers of one category could vary from five to a hundred suppliers. Furthermore, for some items there may be more than one category of suppliers and, for our needs we float demands to them through electronic media within a short time span. In addition to that, we have our in-house capabilities where the major repairs and services are carried out within the SLAF. For that we have established our own engineering wings and workshops with the assistance of aircraft manufacturers and SLAF personnel have been trained abroad to extend their services as per the approved manuals.

Q What are the sustainability issues related to the supply chains that SLAF has faced in recent years?

Sri Lanka's current economic situation, this financial crisis is the main issue the Sri Lanka Air Force faces when it comes to sustainability. All suppliers who were once reliable and sustainable, are now reluctant to sell or supply goods. Instead, they demand advanced payments or even cash on delivery. Since we are governed by government tender procedures, there are certain restrictions on the processes we follow. If you want to purchase a product on an advanced payment basis, you would be limited to only up to 30% of the order value and such advance payment can be released on a 100% bank guarantee. However, vendors are not willing to forward such bank guarantees as they do not want to block their money further, since they know that the payments would not be done on time.

In addition, as we are mainly dependent on foreign sources for aircraft spares, when there are disputes or clashes between countries, importing items becomes a major issue. For instance, we depend a lot for spares related to rotary wing aircraft from Russia. Due to the Russian-Ukraine war, there are international limitations in releasing funds to the Russian sector as well as the acquisition of items. In the present scenario, we struggle when it comes to importing spares from Russia and Ukraine.

Q What measures has SLAF taken to restructure its supply chain processes towards sustainability? What are the strategies used to measure that progress?

SLAF depends on manufacturers and their authorised agents. At the moment, these manufacturers are rather reluctant in supplying the items we require. However, there are other markets in which we can meet our requirements. For example, in Middle Eastern countries, there are suppliers who have direct access to the manufacturer and keep stocks with them for the operations within their country. At the same time, they have an assortment of spares with them. If you take an aircraft spare, each part tends to have a rack lifetime. This life can be categorised either on a calendar basis or an hourly basis. Because of that, instead of keeping them stocked, they tend to clear the stocks out by selling them to other countries such as Sri Lanka. Thus, even if restrictions exist in getting items from a manufacturer, we would still have an authorised agent dealing with us for spares in this manner, and they would become our second-best option when the manufacturers are reluctant to make business with us. Presently, though there exist many strategies to measure the progress of sustainability, we are not in a position to practise written economic strategies to measure progress, due to the prevailing situation in the current economy. However, in any crisis situation our own in-house repair and services, workshops and engineering wings are capable of handling and managing the situation to a greater extent.

Q What are the strategies used by SLAF to secure survival while achieving sustainability?

The main strategy and the strength is the ongoing positive relationship with our suppliers. This is a practice that has been maintained by the Air Force for many years, thus, there exists a mutual trust between the suppliers and ourselves. It has developed to such an extent, that when the suppliers require the need for something in particular, we are ready to assist them, and in return, they do the same and vice-versa. Furthermore, we have developed a practice in which we exchange knowledge with manufacturers in such situations, like major overhauls. We are here to provide them with all the information they need, since almost all the air assets are fully used by the air force since we have a limited number of stocks, the operational knowledge of the SLAF and experience is comparatively high.

Compared to how things work in other countries, they normally do their servicing on a calendar basis. Due to the limited number of air assets, the SLAF has to follow the hourly basis servicing and major overhaul patterns. As the flying commitment of a single air asset is high, the manufacturers are also dependent on us for their Research and Development (R&D) projects as the experience and knowledge of SLAF technical staff is very high, due to the heavy usage of a single aircraft. Thus, the Sri Lanka Air Force has maintained sustainable connections between the suppliers and the air force.

Q What are the steps taken by SLAF to train and prepare its personnel to respond effectively to supply chain challenges?

We have different tradesmen and women within the field of logistics, such as suppliers, caterers, ground stewards, cabin crew, refuelers, etc., to address supply chain challenges. The logistics Officers are responsible for a wide range of tasks, each position requires certain skills. Initially, we give them basic training in general and deploy them under supervisors. When they reach six to seven years of service within the Air Force, we give them advanced training for 6 months, which is specific to their area of work. After completing this training, we select people based on their experience and knowledge, for other specialised training. At the same time, we also allow them to participate in competitions such as culinary art exhibitions, on behalf of the Air Force and our teams always achieve excellent results in such competitions, as a result of their in-house training and their level of experience within the Air Force. They use this training to capitalise on their skills in activities outside the Air Force. Even if it is not within the scope of their job, we send our personnel to external organisations and give them opportunities to use their skills and receive in-house training on specific tasks.

Q Can you explain the current technologies and systems used to manage and assure the coexistence in re-engineering and sustainability of supply chains in SLAF?

To ensure sustainability in maintenance of the aircraft fleet, we only focus on manufacturers and suppliers who are properly certified and authorised either locally or internationally. Our purchases are 80% brand-new spares and others are in reconditioned state categorised as pool exchange and spares with some percentage of its original life. In all such purchases, we assure sustainability by inspecting different certificates like manufacturer certificates, quality certificates, and authorization from particular aviation and mechanical authorities. We verify the same using available publications, records, and manuals. We have specially trained quality checkers such as an aeronautical inspection service for this purpose. Although re-engineering is not authorised for aircraft items, it is being conducted to a certain extent. We conduct major inspections after the expected service hours of an aircraft. As those air assets are used for VIPs and VVIPs, we need to ensure the 100% serviceability and reliability of those properties. We follow re-engineering for domestic items. Our primary goal is to keep air assets flying. Everything else

is a supporting service. For this purpose, we need to adhere to the authorised procedures, practising the concept of re-engineering to some extent.

Q What advice would you give to organisations to re-engineer their supply chains towards sustainability while assuring survival and coexistence?

Currently, the most essential factor for a business is survival, ensuring coexistence. Survival and simply presence in the market are the most challenging tasks faced by anyone in the present economic climate. Selecting suitable suppliers based on past experiences has become more important in procurement. The next important thing is training and development, to keep your own people developing continuously and adding new skills to their pool, achieving the expected level and sustainability is very important for the survival of both organisation and the workforce. Trained people should be there to cater the requirements and face challenges in the business. In addition, the involvement of all members of your organisation is very important as any member could have great ideas to develop the organisation, at the same time, the organisation can provide opportunities for them and increase the value of their work. The involvement of people from every level strongly contributes towards sustainability. Maintaining a good reward system will encourage people to work. We also have some annual awarding events, in which the individuals are assessed and rewarded for their voluntary contribution to the duty and other outside fields of his or her basic duty. I recommend that these are the areas that businesses should strive to develop. ●

The Future of Sustainable Supply Chains Enhanced by Technology

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What is meant by the term Supply Chain? A supply chain is a network of businesses linked together to make sure a production process goes efficiently. Supply chains monitor four basic elements such as quality, quantity, time, and cost. This article presents new technical methods for this purpose.

NEW TECHNOLOGIES THAT CAN BE USED TO MAKE THE SUPPLY CHAIN MORE EFFICIENT AND EFFECTIVE

Supply chain management always offers opportunities for technological innovation and for this precise delivery method as well as real-time monitoring are important. For this mobile, wireless and mobile technologies lead to logistics and transportation. As it is difficult to deal with such situations, it is essential to use new technologies. Here are some examples of how technology is changing supply chain management nowadays.

How to transport items efficiently: Third-Party Logistics (3PLs) companies and supply chain managers are using cloud computing and cellular technologies to automate processes and boost precision. Automated systems are quicker, more effective, and offer superior data collection. 3PLs are also using Customer Relationship Management (CRM) technology to simplify customer supply chain operations and enhance client relationships. Access to real-time data along the supply chain is changing how businesses operate and anticipate conducting business. Application Programming Interface (APIs) can help transportation companies interact with various systems and speed up the transfer of data between different points, reducing the number of empty kilometres on the transportation network.

Effective communication among employees: Although transporters and suppliers can match employees with the appropriate device for their everyday jobs, smartphone technology is still susceptible to damage. Many asset-lite couriers use smartphone technology to build a breadcrumb path for monitoring freight, and back-end apps let drivers collect signature data and generate proof of delivery. Businesses can obtain the same state data from a mobile phone that is accessible through proprietary technology or Electronic Logging Devices (ELDs). Mobile technologies and real-time communication are essential for company processes. Pings are used by enterprise technology systems to enhance contact and give large companies more manoeuvrability. Companies that are understaffed or having trouble meeting capacity should pay attention to strategic management. Flexible communication routes across the entire supply chain can improve mood and efficiency among staff members. Product delivery and tracking are aided by communication, which increases client happiness and makes operations work more easily.

Reducing shortages of drivers and use of new technologies: Driver Assisted Truck Platooning (DATP) could reduce carbon pollution, save money, boost safety, and address driver scarcity. Since 2017, autonomous cars have been operating on Interstate 10 between El Paso and Southern California, but a human driver still sits in the driver's seat to supervise the computer-driven driver. Self-driving vehicles may be able to

Since 2017, autonomous cars have been operating on Interstate 10 between El Paso and Southern California

bridge the gap between the demand for and the supply of drivers, and gamification of transportation is being used to raise standards of safety and draw in a younger workforce. Technologies like the Internet of Things (IoT) and Vehicle-to-Everything (V2E) can increase driving economy and traffic safety. Modern technology in supply chain management lowers costs through better vendor contract management.

WHAT TECHNOLOGIES CAN CHANGE SRI LANKA'S SUPPLY CHAINS IN FUTURE FOR SUSTAINABLE DEVELOPMENT

We can use disruptive technologies to shape the future of supply chain management. To drive supply chain performance, Artificial Intelligence (AI) and Machine Learning (ML) are producing various automated processes and procedures. We can achieve a few sustainable development goals like "Decent Work and Economic Growth", and "Industry, Innovation and Infrastructure" by using artificial intelligence and machine learning to simulate human intelligence and performance, accurate forecasting can improve planning, execution, and logistics maintenance. Below are some of the easiest ways to reach these sustainable development goals in a country like Sri Lanka.

Smart Warehouses: IoT and AI help to make predictions about how stocks are placed and which quantities we want to supply today, tomorrow, and in the future. Then machine learning algorithms are utilised to handle autonomous robots or machines to place orders, store of orders, how can we retake them, and where we replace them for transport. To identify which item we want, we can use radio waves for the identification. Then robots can handle everything without human help. One robot can work the whole day, which helps to reduce our budget for the payment of labour.

Autonomous Vehicles: Driverless vehicles can transport goods more smartly (safely and efficiently), the reason being that humans tend to take more breaks, require favourable weather conditions for deliveries, require comparatively higher remuneration, and an additional cost on employee welfare should be borne. Due to these reasons, we find that autonomous vehicles are the most suitable transport method.

Inventory Management Systems: For the optimization of inventory management, we can use machine learning algorithms to plan inventory replacements, estimate time arrivals, and safety stock management. Then we can reduce inefficient processes, lack of inventory insights, manage warehouse space, manual documentation, etc.

Optimised Delivery Routes: In the expanding area of AI route optimization, artificial intelligence-based systems are used to handle the delivery of goods and services more effectively. These AI systems can evaluate vast amounts of data and spot trends in profitability, traffic flow, and customer demand.

Customer Service: For the reduction of delays in sending replies, and giving incorrect responses to customers, AI-powered Chatbots and conversational AI tools like ChatGPT can be used. Those are advanced language models that can be developed using Open AI sources. It can give sustainable benefits to companies.

In the expanding area of AI route optimization, AI-based systems are used to handle the delivery of goods and services more effectively.

COMPARATIVE CONCLUSION

Technology can improve the performance of the supply chain by quickly taking note of warning signs, dealing with problems, and forecasting issues in sustainable development. Machine learning and big data tools used to monitor current global events can provide early warning signals of problems. Improved technology has increased supply chain efficiency while reducing costs and errors, benefiting all sectors. ●

Re-engineering the supply chain is a strategic initiative to improve the overall PERFORMANCE of the organisation and its ability to survive in a rapidly changing market"

– Michael Hammer

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MEMORIES

LOGISTICS DAY 2022

Logistics Day is a highlight of the KDU calendar and was held for the 8th consecutive year on the 1st of June 2022, under the theme "Resilient Supply Chains for Economic Challenges in the Next Normal". On this day, the 7th Edition of the Logistics Times Magazine was launched. Major General Milinda Peiris, Vice-Chancellor of KDU, and Ms. Sujani Kumarasinghe; Head of Customer Experience at Maersk Lanka (Pvt) Ltd were the Chief Guest and the Guest of Honor of the event, respectively. The event consisted of a panel discussion featuring renowned professionals from the industry on one stage, speeches by distinguished guests, and the awarding of the winner of the very first article competition, enabled students to gain great exposure to the industry, and develop professional and soft skills before starting their careers. This day marked a milestone in the history of Logistics Day due to its success.

MONTHLY GENERAL MEETING

The Faculty of Management, Social Sciences, and Humanities held Monthly General Meetings every last week of the month with a concurrent career guidance session, under the supervision of Senior Lecturer Dr. Kalpana Ambepitiya, Faculty Advisor for Career Guidance. The faculty paid due attention to Career Guidance with the support of the Director of the Career Guidance Unit of KDU, Dr. Namali Sirisoma, by organizing sessions under the themes of 'CV writing and facing for interviews' conducted by Mr. Muqsith Kuthdoos, 'Execution: from Theories to Practice' conducted by Mr. Manoaj Jayasuriya, 'Email writing and telephone etiquette', conducted by Major Wimansa Abeywikrama, and the 4th career guidance session, under the title of 'Gain the Edge' by Mr. Udara Viduranga, organized by the Department of Social Sciences. These sessions attested to be highly productive for students in sharpening their respective skills.

1st June 2022

30th March 2023

24th August 2022

INSTALLATION OF THE EXCO 2022/2023 AND ANNUAL GENERAL MEETING

The Technical Sciences and Management Society (TSMS) of KDU held its fifth Annual General Meeting (AGM). The appointment of the TSMS Executive Committee for the fiscal years 2022-2023 marked a significant turning point for the Department of Management and Finance. Honorary attendance of Mr. Kithsiri Amarathunga, Dean of the Faculty of Management, Social Sciences, and Humanities, Dr. Wasantha Premarathne, Head of the Department of Management and Finance, and Senior Lecturers and Lecturers marked this occasion. The Dean addressed the audience regarding the value of soft skills development to undergraduates, in his introductory remarks.

FOOD FIESTA

The TSMS organized a Food Fiesta as a fundraising activity on the 30th of March 2023, with the Finals of the Interfaculty Cricket Tournament held at the KDU grounds. The enthusiastic undergraduates of Intake 40 took charge of the Food Fiesta and were successful in satisfying everyone's taste buds with their innovative array of foods and drinks. As a newly added intake, this was a golden opportunity for them to recognize each other's capabilities, sharpen their innovative skills and expand their social network. The audience thoroughly enjoyed the vibrant atmosphere fueled by the mouthwatering treats from the food stalls and the contagious energy of the crowds cheering. It was truly a memorable day filled with a sense of family, cheer, and happiness as the FMSH celebrated the joy of unity.

KDU YOUNG ENTREPRENEURS EXHIBITION 2023

"Futurists", the KDU Young Entrepreneurs Exhibition was held on 30th March 2023 on KDU premises from 9 am to 1.30 pm for the 7th consecutive year organized by the Department of Management and Finance. The novel and innovative business ideas of the undergraduates reading for the BSc in Logistics Management and BSc in Management and Technical Sciences Degree Programs of intake 39 of the Faculty of Management, Social Sciences and Humanities were presented at the exhibition. This amazing event was organized under the guidance of Dr Kalpana Ambepitiya, the lecturer in charge. The event was graced by the Vice-Chancellor of KDU, Major General Milinda Peiris. The first place in the exhibition was awarded to the 'Denimia' team which had designed fancy items by using used denim and making a mart filled with only denim items. The second place was achieved by the team 'COCO' which introduced a coconut flour made from used coconut flakes and a drink made from coconut water mixed with Hibiscus and Butterfly Pea essence as two different flavours. The third place was awarded to the team "Hungry Peeps" which came up with bites from jackfruit seeds, cups from kurakkan flour and cream from Lavalu Anoda. The exhibition was truly a remarkable opportunity for young undergraduates to develop their entrepreneurial skills.

INDUSTRY VISITS

The final year undergraduates of the Department of Management and Finance, following the Logistics Management degree specializing in Supply Chain Management got the opportunity for a field visit to Sri Lanka Ports Authority Colombo, on 17th May 2023. Further, the undergraduates specializing in Transportation Management had a visit to Bandaranayake International Airport Katunayake, on 27th October 2022. The main purpose of annual field visits is to ensure the quality of the degree program by providing academic and practical knowledge.

INTER-FACULTY ARTICLE COMPETITION

The Inter-Faculty Article Competition was an addition to the KDU Logistics Day this year, incorporating insights from multiple disciplines under the theme "Re-engineering Supply Chains Towards Sustainability: Assuring Survival and Coexistence". This was an opportunity for Undergraduates of all faculties of KDU to develop their writing skills, creativity, and professionalism. Winners and participants were awarded cash prizes at Logistics Day 2023, and e-certificates were awarded to all participants. The three winning articles and selected articles were published in the Logistics Times Magazine.

30th March 2023 — 7th May 2023 — 18th May 2023

MELIORA

The TSMS Exco of 2022/2023 kick-started this year by organising 'Meliora - Better Things are Yet to Come' for members of the TSMS from intake 37-40. It was an eventful evening filled with much excitement and reunion which gave students a wonderful opportunity to reconnect with their fellow batchmates as well as their seniors as a start to building good interpersonal bonds. The event also gave an opportunity for students to showcase their talents. This was truly an enjoyable and memorable evening for all members of the TSMS.

FMSH CAREER FAIR

The FMSH held their Career Fair for the year 2023 on 18th May. It was organized by Dr. Namali Sirisoma, the Director Career Guidance Unit of KDU and Dr. Kalpana Ambepitiya, Faculty Career Guidance Advisor. Many leading local and international organizations were represented at the career fair. Its purpose was to help students locate the perfect and most suitable internship assignments in reputable companies in Sri Lanka.

TECHNICAL SCIENCES & MANAGEMENT SOCIETY

Executive Committee - 2023

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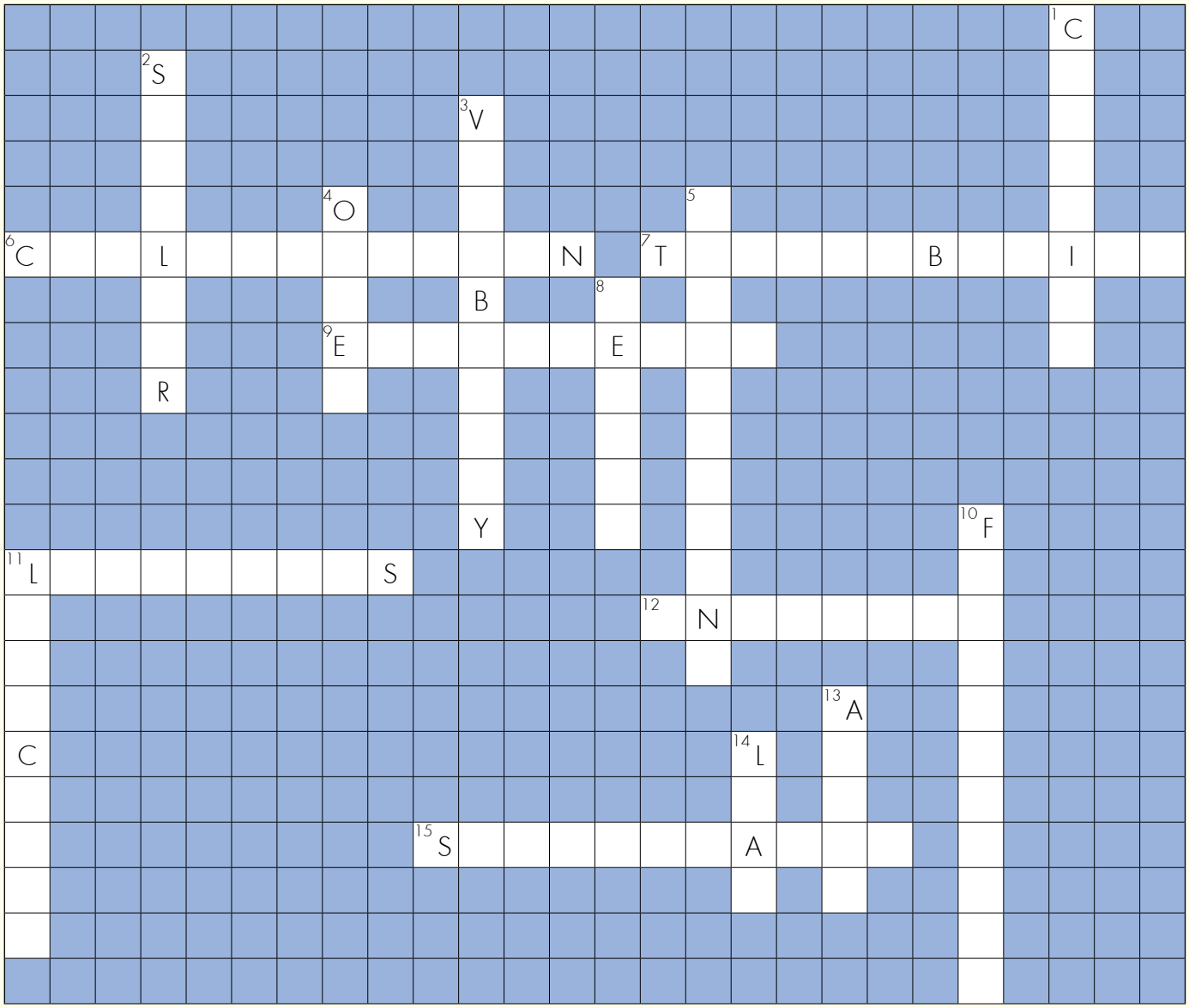
Class Representative
- MTS 39

TECHNICAL SCIENCES AND MANAGEMENT SOCIETY (TSMS)

The Technical Sciences and Management Society (TSMS) is one of the most renowned clubs of KDU, belonging to the Department of Management and Finance. It was founded in 2020 by the students of the Logistics Management and Management and Technical Sciences degree programmes. Its primary goal is to nurture undergraduates to build within themselves a balanced personality, rich in academic performance, soft skills and extracurricular activities. Its mission is to pave the way for undergraduates to be industry ready by providing them with as many opportunities to gain exposure to the world of business and to enable undergraduates to cater to modern business requirements. The club continues to seek to build the soft skills such as leadership, team work, communication, and interpersonal skills through various events which are organised by the students.

Brain Teaser



Across

6 The process of working together with customers, suppliers and other stakeholders to optimize performance and achieve goals.

7 The ability to trace a product's entire journey through the supply chain, from raw materials to the final product.

9 Producing and delivering goods or services with minimum amount of time, resources and waste.

11 The process of planning, executing and controlling the flow of goods, services and information from the origin to the consumption.

12 A person who creates and designs new products, services, processes or methods.

15 When the supply chain is environmentally and socially acceptable, with minimum impacts on the earth, this word is used.

Down

1 The maximum amount of goods or services a company can produce or deliver within a given period.

2 An entity who provides goods or services to another organization or an individual.

3 The ability to see and track every aspect of the supply chain like shipments, inventory levels and productions.

4 The request made by the customer to purchase goods or services.

5 The process of acquiring goods, services or resources needed for the production or delivery.

8 The quantity of goods and services customers are willing to buy at a given price and time.

10 Predicting future demand for products and services.

11 The series of stages in form and functional activity through which a product passes from the beginning to the ending.

13 The ability to respond effectively and quickly to changes in demand of the customers, supply chain disruptions or other challenges.

14 The adjective used to define the amount of time between placing a purchase order and receiving the order by the warehouse, in inventory management.


Healthier Families
MILO
Empowered Communities
A Greener Planet
Let's prote t our planet together
NESTLÉ, MY SRI LANKA
Nestlē.
Dro ur clables here
LET'S WORK TOGETHER FOR GOOD
Nestlē.
MY NESTLÉ, MY SRI LANKA

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