FINANCE OUTLOOK

VOLUME III | OCTOBER 2023

HOW TECHNOLOGY AND AI INFLUENCE THE BUSINESS

DEPARTMENT OF FINANCE
FACULTY OF COMMERCE AND MANAGEMENT STUDIES
UNIVERSITY OF KELANIYA

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FINANCE OUTLOOK

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VOLUME III | OCTOBER 2023

MESSAGE FROM
THE HEAD OF THE DEPARTMENT

It gives me immense pleasure to extend my warmest congratulations for the third issue of the 'Finance Outlook' business magazine published by the Finance Students' Association (FinSK) of the Department of Finance (DFin), University of Kelaniya.

In the ever-evolving landscape of finance, staying informed and ahead of the curve is paramount. Finance Outlook is committed to bringing trusted sources of insights, trends, and expertise in the field of finance, investments, and economic developments. We understand the challenges and opportunities that you, our readers, face daily. Whether you are a seasoned investor, a financial professional, or someone looking to make sound financial decisions, we are here to provide you with:

In-depth Analysis: We delve deep into market trends, economic policies, and emerging investment opportunities, empowering you with the knowledge needed to make informed decisions.

Expert Commentary: Our esteemed panel of financial experts offers valuable insights, strategies, and advice to help you navigate the ever-changing financial landscape.

Practical Advice: From personal finance tips to wealth management strategies, we provide actionable guidance that can enhance your financial well-being.

Global Perspective: We keep you updated on global financial developments, ensuring that you have a comprehensive view of the world's markets.

Exclusive Interviews: Gain valuable insights from industry leaders and visionaries who are shaping the future of finance.

Cutting-Edge Technology: We explore the impact of fintech and digital innovation on the financial sector, helping you stay up to date with the latest trends.

Being a pioneer in innovation and the most progressive department in the University of Kelaniya, the Department of Finance strides forward to prepare future corporate leaders through innovative thinking and practical knowledge. The extra-curricular activities conducted by the Finance Students' Association are one of the avenues used to train undergraduates to learn professional practices. The 'Finance Outlook' business magazine is one of the key outcomes of the FinSK in line with "Investment Week 2023", one of the major events in the Department of Finance.

I would like to thank the Finance Students' Association and the editorial board for their immense contribution in publishing the third issue of the 'Finance Outlook' business magazine. Our commitment is to be your partner in financial success, offering you the knowledge and tools needed to thrive in an ever-changing financial landscape.

Stay connected, stay informed, and stay ahead with Finance Outlook.

DR. RUWANI FERNANDO
Head, Department of Finance
Faculty Of Commerce And Management Studies
University Of Kelaniya

FINANCE OUTLOOK

MESSAGE FROM
THE EDITOR
IN CHIEF

It is a privilege and an honor to connect with you as the Editor-in-Chief of the "Finance Outlook Magazine," presenting the third volume. The "Finance Outlook" business magazine, a brainchild of the Finance Students' Association and the Department of Finance at the University of Kelaniya, stands as a significant milestone. Its launch during the Investment Week, a flagship event organized by the Department of Finance, reinforces our commitment to providing a comprehensive platform for industry insights and practices.

In response to the fast-evolving landscape of business and finance, we have chosen a theme of paramount importance for this year's magazine: "How Technology and AI Influence the Business." In today's dynamic and interconnected world, technology and artificial intelligence are catalysts that transform industries, reshape strategies, and redefine how we perceive business operations. Sri Lanka is facing a pressing economic and financial challenge, and now, more than ever, the integration of technology and AI is crucial in shaping a brighter future. This edition aims to be a beacon of knowledge, providing you with innovative, feasible, and credible insights on utilizing technology and AI to navigate through this crisis and drive sustainable growth.

On behalf of the editorial board, I extend my deepest appreciation to all the distinguished corporate personalities for generously sharing their invaluable knowledge and experiences. I also express my gratitude to the dedicated academic staff of the Department of Finance for their unwavering support in shaping this magazine. The "Finance Outlook" magazine continues to serve as a collaborative platform for academia and industry professionals to engage in robust discussions, share groundbreaking ideas, and explore new strategies. I believe this edition will empower our readers, both academics and practitioners, to unlock the full potential of technology and AI in revitalizing businesses and driving economic resurgence.

Thank you for being a part of this enlightening journey. Together, let us explore the ever- evolving nexus of finance, technology, and artificial intelligence and its profound implications on the business landscape.

MRS.THISHAKYA HETTIARACHCHI
Lecturer, Department Of Finance
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FINANCE OUTLOOK

MESSAGE FROM
THE FINANCE STUDENTS' ASSOCIATION

We take immense pleasure in the launch of the third volume of the annual business magazine, the "Finance Outlook" for the year 2023, as the official student body of the Department of Finance. The Department of Finance at the University of Kelaniya enables undergraduates to enhance their knowledge and soft skills with the motive of crafting successful future corporate leaders. The Department of Finance arranges a variety of programs to help undergraduates improve their potential and bring out the best in them.

The flagship event of the Department of Finance, Investment Week 2023, is an industry collaboration event enriched with a series of multitudinous events: the Inter-university Finance Quiz competition, financial literacy workshops, an inaugural banking summit featuring experts from the banking industry, Investment Trade Show which is an open day for the general public in addition to the launch of the third volume of the Finance Outlook Magazine.

The Finance Outlook Magazine is indeed a stepping stone for FinSK. Through the Finance Outlook Magazine, we have been able to gain further exposure to several industries, including the finance, banking, and insurance industries, which are our main focus areas. The Finance Outlook Magazine features several articles authored by undergraduates under the guidance of lecturers and by professionals from various industries. The theme for the third volume, which is "How Technology and AI Influence the Business", is both timely and significant. In today's fast-paced and increasingly complex world, technology and artificial intelligence play pivotal roles in not only addressing crises but also in diving recovery and resilience. Hence, this magazine uncovers a profound selection of articles that serve as an eye-opener, with views and insights coming from some of the very best in the industry.

We hope this magazine will contribute to constructing society with good knowledge and deepen the reader's understanding of real-world issues that must be addressed and resolved. We hope to come up with more noteworthy topics in our future releases.

UNIVERSITY OF
KELANIYA

> *"Imagine a place where ancient wisdom meets cutting-edge innovation, where the echoes of centuries past merge seamlessly with the vibrant pulse of modernity."*

Welcome to the University of Kelaniya, a beacon of knowledge rooted in the historic Vidyalankara Pirivena, founded in 1875 as a sacred hub of learning for Buddhist monks. This revered institution, one of the tremendous national centres of traditional higher learning, stood at the forefront of the national movement and resurgence, indicating a new era of enlightenment.

In the transformative landscape of Sri Lanka's 1940s and 1950s, the Vidyalankara Pirivena blossomed into the Vidyalankara University in 1959, later evolving into the Vidyalankara Campus of the University of Ceylon in 1972 and finally blooming into the vibrant University of Kelaniya in 1978.

This prestigious institution, which ranks at the top among Sri Lanka's green universities, is located just outside of Colombo on the north bank of the Kelani River and has 7 faculties such as Commerce and Management Studies, Computing and Technology, Humanities, Medicine, Science, Social science and Graduate studies, 56 departments, 3 affiliated institutions, and non-degree granting educational units/centers forming a nexus of intellectual curiosity and creativity. At its core, Kelaniya stands as a pioneer in higher education.

Furthermore, apart from academics, it is a hub of creativity and ambition, a vibrant array of student clubs thrives under the Career Guidance Unit, enhancing public speaking, leadership, and social skills. The university also offers diverse talent-enhancing clubs. The Department of Physical Education supports sports excellence, while the Cultural Center provides varied arts activities. Student counselling and the "Kalana Mithuru Sewana" unit offer vital academic and mental support, making Kelaniya a holistic growth hub, not just a university.

The University of Kelaniya has achieved an important milestone by securing a coveted position in the 2024 Times Higher Education World University Rankings, standing among the top 1500+ universities worldwide. This recognition highlights the institution's outstanding academic achievements and global influence. Ranked as one of Sri Lanka's top four universities, Kelaniya's success stems from its dedication to research, impact, and teaching. The university's commitment to excellence is evident through its diverse performance indicators, including teaching methodologies, research contributions, international engagement, and industry collaboration. Kelaniya's inclusion in this prestigious list reaffirms its legacy in knowledge dissemination and promises a future marked by boundless potential and academic brilliance.

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FACULTY OF COMMERCE AND MANAGEMENT STUDIES

"Charting a Legacy: 25+ Years of Brilliance in Commerce and Management Education"

In the heart of Sri Lanka, the Faculty of Commerce and Management Studies at the University of Kelaniya stands as a beacon of inspiration, charting a legacy of brilliance in education.

For over 25 years, it has been the architect of success for the nation's young, vibrant talents. Its dedication has provided an ideal platform for undergraduates and professionals to nurture their skills and thrive together.
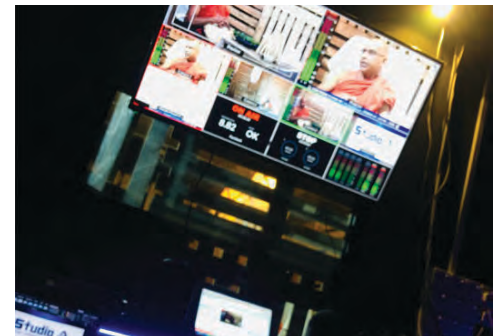
In response to the rapid shifts in Sri Lanka's economy, it is swiftly transitioning to an e-learning environment and fostering a rich research culture. Its mission is to cultivate sharp, inventive, and imaginative professionals who can elevate the community. With new master's degree programs and extended undergraduate degrees, it is expanding horizons in Commerce and financial management, Accountancy, HR Management, Marketing Management and Finance.

More than an educational institution, it is a thriving ecosystem for young researchers, business leaders, and entrepreneurs. Its array of programs, including a Doctor of Business Administration and various Master's, Diploma, Higher Diploma, and Postgraduate Diploma courses, have attracted over 1,000 postgraduate students. These programs not only broaden horizons but also contribute to the future sustainability of the faculty.

Together, it continues to innovate, inspire, and lead in shaping the future of commerce and management education.
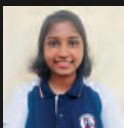
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DEPARTMENT OF FINANCE

The Department of Finance (Dfin) has transformed into an innovative hub of financial innovation and diversity within the National University System. With a bold vision, it is bridging the voids in the financial services realm, pioneering a quartet of cutting-edge degree programs in Finance, Banking, Insurance, and Financial Engineering, redefining the future of financial education.

In the ever-evolving landscape of higher education, the Department of Finance at the university has carved an illustrious journey since its inception in 2004. A pioneering milestone was achieved that year with the introduction of the B.B.Mgt. (Special) degree in finance under the esteemed Department of Accountancy. Over the years, the department underwent transformative growth, cementing its status as an innovator in financial education.

Continuing its legacy of innovation, the year 2016 witnessed the introduction of three new cutting-edge degree programs, expanding the horizons of financial education. The department's dedication to shaping future leaders was evident in 2017 when it doubled its undergraduate intake, welcoming 120 promising minds into its fold. 2018 marked another milestone, with the department receiving an A grade Service Excellence Rating (SER) and the commencement of the highly acclaimed Financial Engineering degree program. The following year, in 2019, the department's commitment to quality education was reaffirmed when it received the CFA (USA) Accreditation for its Financial Engineering degree program. Additionally, all degree program syllabuses were comprehensively revised, ensuring students received the most relevant and contemporary education.

Embracing the digital era, the department adapted to online learning methods in 2020, ensuring seamless education delivery amidst challenging times. In 2021, it further expanded its academic influence by launching the South Asian Journal of Finance, providing a platform for scholarly discussions and knowledge dissemination.

In 2008, the department took a significant leap forward by establishing the Finance Studies Unit, laying the foundation for future innovations. By 2011, it had evolved into a full-fledged department, marking a pivotal moment in its history. Evidence of its commitment to excellence came in 2013 when it became the first Sri Lankan university to obtain recognition from the prestigious CFA (USA) – a hallmark of quality and expertise in the field of finance.

The crowning achievement came in 2022 when the department was awarded the ISO 9001:2015 quality certification from the Sri Lanka Standards Institution (SLSI), underscoring its unwavering commitment to maintaining the highest education and operational excellence standards. The Department is embarking on a revolutionary educational journey in 2023 with the launch of the Higher Diploma in Business Finance and Master's degree in Professional Finance. This remarkable journey highlights not just the department's evolution but also its unwavering dedication to shaping the future of finance education, making it a beacon of excellence and innovation in the academic realm.

In an impressive display of collaborative spirit, the Department of Finance has embarked on a transformative journey through a series of strategic partnerships. These endeavors have elevated the department's standing and enriched the academic landscape. By forging Memorandums of Understanding (MOUs) with esteemed institutions such as the Securities & Exchange Commission of Sri Lanka, the Department of Finance forged a visionary partnership at the University of Kelaniya. They established the "Colombo Stock Exchange Gold Medal Award" to honour outstanding graduates in capital market studies. CSE pledged an annual fifty thousand rupees scholarship and one hundred thousand rupees sponsorship for "Investment Week". Also, the Department of Finance at the University of Kelaniya partnered with Sandbox Consultancy Services Ltd. to enhance students' soft skills. Through this MoU, skill development programs will be offered throughout students' academic journeys, bridging academia and industry in a vital collaboration with the Institute of Bankers Sri Lanka, People's Insurance PLC, Softlogic Life Insurance PLC, Colombo Stock Exchange, CFA Society Sri Lanka and Acuity Knowledge Partners.

Furthermore, numerous departmental events and projects have been effectively organized by students, with ongoing assistance from the lecture panel. The Department of Finance at the University of Kelaniya shines as a beacon of innovation and unwavering dedication to excellence in the realm of financial education. With a pioneering spirit, it has embraced digital evolution and formed transformative partnerships, enriching both academia and industry. Continuously redefining the landscape of financial education, it stands as a powerhouse of knowledge, shaping brilliant minds and nurturing future leaders. In the vibrant tapestry of education, it stands as a testament to innovation, collaboration, and the relentless pursuit of excellence.

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FINANCE STUDENTS' ASSOCIATION

The Pulse of Department of Finance

Welcome to FinSK, Where Finance Meets the Future.

The pulse of the Department of Finance at the University of Kelaniya beats within FinSK, a vibrant and innovative student body that goes beyond traditional boundaries. FinSK, short for "Finance Students' Association," is not just an organization, it is an embodiment of creativity and dynamism under the Faculty of Commerce and Management Studies.

Founded in 2012, FinSK is more than a club, it is a hub where finance enthusiasts from all academic years come together. It redefines the norms and shapes the future of finance education. FinSK is the architect of change, the pioneer of innovative thinking, and the guardian of the department's legacy. Embrace the new era with FinSK, where every member is a catalyst for progress, and together, it creates a legacy that resonates far beyond the confines of the university.

FinSK offers an innovative education journey beyond textbooks. With vibrant events, webinars, and community projects, it fosters creativity and teamwork. Guided by mentors, students experience celebratory events, debates, and industry insights, It also provides adventures that build resilience, preparing the students for real-world challenges.

In the last years, FinSK has blossomed into a beacon of excellence within the Faculty of Commerce and Management Studies. With every step, it has achieved remarkable milestones, setting new standards in student associations. Its journey is a testament to passion, innovation, and unwavering dedication.

EVENTS AND PROJECTS

Investment Week

Step into a world of limitless possibilities with the Finance Students' Association. Here, undergraduates are not just students, they are future corporate leaders, innovators, and visionaries. More than an association, it is a platform where leadership isn't just a word but a journey, communication isn't a tool but an art, and decision-making isn't a task but a craft. As vibrant members, they will dive into a universe where their potential finds its true expression. Being a part of FinSK isn't just an experience, it is a ticket to immerse oneself in the heartbeat of the department, to bask in the splendor of university life, and most importantly, to craft one's own success story.

Investment Week stands tall as the crown jewel in the Department of Finance's yearly calendar, eagerly anticipated by both students and professionals alike. Since its inception in 2013, this flagship event has become a vital platform for undergraduates, scholars, and corporate professionals to converge. More than just a gathering, it's a beacon of financial enlightenment, drawing together minds passionate about investments. This week-long extravaganza isn't merely a showcase, it is a gateway to a world of collaborations with finance, banking, insurance, and financial engineering experts. Through engaging activities like the inter-university quiz, enriching workshops, and insightful discussion forums, attendees dive deep into the heart of their future industries. Investment Week isn't just an event, it is an immersive experience that illuminates the path to financial excellence.

Shilpa Seminar Series

In the captivating "SHILPA" Seminar Series, students in grades 12 and 13 embarked on a transformative journey guided by esteemed lecturers from the Department of Finance. This year's enlightening sessions on Business Studies, Economics, and Accounting unfolded seamlessly in the virtual realm, bringing together eager minds from across the nation. As the virtual dawn of understanding, a vibrant community of Advanced Level students gathered to delve deep into the realms of knowledge.

Three Annual Magazines

Within the department, tradition meets modernity through the annual literary creations. "Waishakya Warnana," the cherished Vesak Magazine, first graced the literary scene in 2021. Its virtual sequel was also launched with grandeur in 2023, marking another chapter of enlightenment.

Complementing the "Shilpa" Advanced Level seminar series, the department proudly introduced "Mulya Wimansuma" tailored for Commerce Stream Advanced Level students, this publication serves as an invaluable source of questions related to the subjects to empower A/L students.

In the vibrant tapestry of the initiatives, the "Finance Outlook Magazine" emerged as a beacon of knowledge. Launched annually as part of the esteemed Investment Week, this magazine is a fusion of expertise. Curated by both industry luminaries and dedicated undergraduates under the guidance of respected lecturers, it explores contemporary themes from the Finance, Banking, Insurance, and Financial Engineering sectors.

These literary treasures encapsulate the wisdom, dedication, and collaborative spirit of the department, inviting readers on a journey where each page resonates with the pulse of financial innovation and insight.

Religious Events

In partnership with the Finance Students' Association, the department organizes key religious events such as 'Pindapatha Pinkama', 'Ashirwada Poojawa for Freshers', and the Vesak celebration. This year's Vesak event featured unique additions like a 'Bhakthi Geetha performance' and 'dansala'. These events serve as spiritual and cultural touchpoints, enhancing the vibrant tapestry of our academic community.

Fellowship Events

The Association arranges various fellowship gatherings, including the annual Freshers' Welcome to warmly embrace new students and 'Kinfolk' to bid farewell to graduating seniors. Events like Sinhala Tamil New Year celebrations, sports days, and Christmas carol performances are curated to foster unity and friendship among undergraduates. Among these, 'Pinnacle' stands out as a highly anticipated occasion for first and second-year students. It's a day filled with exciting activities, fostering camaraderie and unveiling hidden talents among peers.

Talent Shows For The Undergraduates

The Department of Finance nurtures the diverse talents and abilities of its undergraduates. One notable effort in this regard was the introduction of 'Kusalatha Day,' specifically designed to highlight the artistic skills of first-year students within the department.

After the triumphant conclusion of Investment Week in October 2023 and the successful execution of all planned events for the term, the current committee will step down, passing the torch to the next generation in the coming year's first quarter. Carrying forward a legacy crafted by the dedicated work of those before them, the Finance Students' Association remains committed to its values, ensuring it surpasses expectations in all future endeavors.

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THE INTEGRATION OF
ARTIFICIAL INTELLIGENCE
IN SRI LANKA'S APPAREL SECTOR
PIONEERING TECHNOLOGICAL ADVANCEMENTS

In the intricate tapestry of Sri Lanka's economic landscape, the local apparel sector stands as a vibrant and indispensable thread, contributing significantly to the nation's economic growth and global presence. Over the years, Sri Lanka's textile and apparel industry has evolved to meet the ever-changing demands of the global market, continually reinventing itself to maintain its competitive edge. In this dynamic environment, the infusion of artificial intelligence (AI) and advanced technologies has emerged as a catalyst, propelling the local apparel sector to new heights and strengthening its role as a key pillar of the Sri Lankan economy.

Known as the "engine of growth," Sri Lanka's textile and garment sector has long been a vital component of the country's economy. With a long history spanning several decades, the industry has promoted economic stability, export revenue, and employment. The government's and the business sector's recognition of the enormous potential of incorporating AI and technology into the garment manufacturing processes is not surprising, as it represents a significant step toward increased productivity, innovation, and global competitiveness.

Artificial Intelligence and technology, when utilized in the local apparel business, are more than just catchphrases; they are powerful instruments capable of transforming manufacturing processes and altering the industry's terrain. Precision, agility, and sustainability are being fostered by these technologies, which are being used in supply chain management and design. They help producers cut down on lead times, streamline workflows, and get rid of waste, which raises industry productivity while also encouraging ethical and environmentally beneficial behavior.

Sri Lanka's adoption of AI and technology is creating waves on a worldwide scale. Manufacturers may better predict consumer preferences and market trends by utilizing AI-driven predictive analytics, which enables them to precisely customize their product offers. Furthermore, labor-intensive processes have been streamlined by automation and robotic technologies, which have reduced manufacturing costs and improved the industry's capacity to compete globally. Because of this, the local apparel industry in Sri Lanka is manufacturing clothes of a higher calibre and keeping up with the expectations of the current fast-fashion market.

There is no denying this technology revolution's financial impact. The local garment sector in Sri Lanka now has a stronger competitive advantage thanks to the integration of AI and technology, which has also boosted economic growth. Increased productivity and a larger client base are possible for manufacturers as production processes become more efficient. The industry gains from the ensuing spike in exports and revenue as well.

A PARADIGM SHIFT

Artificial intelligence stands at the vanguard of revolutionizing operations within the apparel industry. A pivotal aspect of this transformation is the enhancement of demand forecasting through AI. AI algorithms meticulously scrutinize historical sales data, industry trends, and pertinent criteria to make highly accurate predictions regarding future demand. This newfound predictive capability empowers clothing manufacturers to meticulously fine-tune their production schedules, minimize excess inventory, and curtail operational costs.

Moreover, AI-driven predictive maintenance solutions have demonstrated their instrumental role in foreseeing equipment breakdowns and downtime. This predictive acumen empowers manufacturers to proactively implement measures, forestalling production interruptions and mitigating losses stemming from unforeseen faults, thereby upholding a seamless manufacturing process.

REVOLUTIONIZING PRODUCT DESIGN AND DEVELOPMENT

AI has emerged as a linchpin in product design and development, facilitating the creation of innovative and market-relevant apparel. Designers adeptly employ AI algorithms to peruse social media data, consumer preferences, and fashion trends, garnering invaluable insights into popular colors, styles, and designs. This data-driven approach empowers designers to tailor products that resonate with consumer preferences, thereby amplifying sales and augmenting customer satisfaction.

Additionally, AI-powered virtual fitting rooms epitomize an embodiment of enhanced customer experience within the realm of online shopping. By leveraging AI algorithms to simulate how a garment would adorn an individual, factoring in their unique body size and shape, this technology substantially mitigates returns due to sizing discrepancies, while concurrently bolstering customer confidence in making online purchases.

Furthermore, AI-driven route optimization algorithms have significantly contributed to efficient distribution and transportation, resulting in cost reduction and expeditious order fulfilment. This ultimately translates into heightened levels of customer satisfaction.
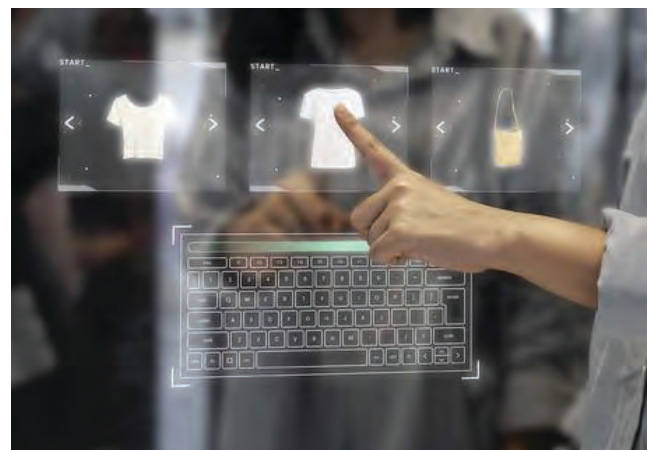
An additional impact of digitalization is noticed in consumer behavior in the F&A industry. The increase in awareness and the advent of new offline and online mediums has changed the contemporary consumer's decision-making pattern, influenced by the various online and offline mediums. It is, therefore, important to create digital platforms for efficient requirements elicitation and collection. This can be attained by utilizing the benefits accompanied by Information technology (IT), Artificial intelligence (AI) techniques, big data analytical tools and other current technologies. *(A. Acharya, S. K. Singh, V. Pereira and P. Singh, "Big data knowledge co-creation and decision making in the fashion industry", Oct. 2018.)*

Artificial intelligence stands at the vanguard of revolutionizing operations within the apparel industry. A pivotal aspect of this transformation is the enhancement of demand forecasting through AI. AI algorithms meticulously scrutinize historical sales data, industry trends, and pertinent criteria to make highly accurate predictions regarding future demand. This newfound predictive capability empowers clothing manufacturers to meticulously fine-tune their production schedules, minimize excess inventory, and curtail operational costs.

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Currently, the F&A industry is equipped with advanced machines required at the various stages of apparel production, which has improved the overall efficiency of the industrial processes. Application of AI is well explained and categorized by operating processes at a managerial level in the F&A. However, these researches lack the categorization of the applied AI in the F&A supply chain.

AI research has 45% contribution to apparel manufacturing issues, approximately 9% to apparel forecasting and 4.2% to fashion recommendation. *(R. Nayak and R. Padhye, "Artificial intelligence and its application in the apparel industry" 2018.)*

SUPPLY CHAIN MANAGEMENT EXCELLENCE AMPLIFIED

Artificial intelligence (AI) applications have gained remarkable traction in optimizing various aspects of the supply chain within the apparel industry. AI is being employed to enhance demand forecasting, inventory management, production planning, and logistics. For instance, AI algorithms can analyze historical sales data, current market trends, and even external factors like weather patterns to predict future demand for specific apparel items. This advanced predictive analytics aids in optimizing inventory levels, reducing excess stock, and ensuring that the right products are available at the right time, ultimately leading to improved customer satisfaction and cost-efficiency in the supply chain (Li, Rong, Sun, & Liu, 2018).

Moreover, AI-driven technologies such as computer vision and robotics are revolutionizing warehouse operations and order fulfillment. Computer vision systems can automate the inspection of products for quality control, ensuring that only flawless items are shipped to customers. Additionally, robots equipped with AI algorithms can efficiently sort and pick items, improving order accuracy and speeding up the fulfillment process. These AI-powered advancements are streamlining supply chain operations, making them more agile, accurate, and responsive to market demands, which is crucial in the fast-paced apparel industry (Mattila, Helo, & Heikkilä, 2015).

UPHOLDING ETHICAL STANDARDS AND

PIONEERING SUSTAINABILITY

Sustainability has emerged as a paramount concern within the global garment industry. AI has played a pivotal role in promoting sustainable business practices within Sri Lanka's apparel industry. AI-powered solutions have been instrumental in waste reduction, energy efficiency enhancement, and resource utilization optimization throughout the production process.

Moreover, AI has fostered supply chain transparency, allowing customers to trace a product's entire journey from its origin to the store. This heightened level of transparency incentivizes companies to uphold ethical standards, ensuring fair working conditions and environmental sustainability.

ANTICIPATING

FUTURE

TRAJECTORIES

The integration of Artificial Intelligence (AI) in Sri Lanka's garment industry presents a promising trajectory for future advancements. As AI algorithms undergo continuous refinement and advancement, they are poised to revolutionize key aspects of the apparel industry. The application of AI promises to significantly enhance demand forecasting accuracy, streamline manufacturing processes for increased efficiency, and foster sustainable practices within the industry (Fernando, Siriwardana, & Madurapperuma, 2019). The potential benefits include reduced waste, optimized resource utilization, and improved overall operational productivity.

However, unlocking the full potential of AI in Sri Lanka's garment industry requires substantial investments in education and training. The workforce needs to be equipped with the necessary skills and knowledge to effectively engage with AI technologies and maximize their potential benefits (Siriwardane, 2018). This entails developing expertise in AI programming, data analytics, and machine learning, among other relevant areas. Investing in the education and upskilling of the workforce will ensure a seamless integration of AI technologies, fostering innovation and driving the industry towards a more technologically advanced and sustainable future.

In conclusion, the integration of artificial intelligence (AI) into Sri Lanka's apparel sector has ushered in a new era of technological advancement, setting the stage for a thriving and sustainable industry. This transformation is not merely theoretical but has manifested in real-world applications that are reshaping the entire apparel ecosystem. Several Sri Lankan apparel companies have demonstrated remarkable prowess in harnessing the potential of AI, exemplifying the tangible benefits this technology brings to the industry.

BrandX is one notable example of this, since it has optimized its production processes by using AI-powered demand forecasting. They have considerably decreased surplus inventory and operating costs by correctly forecasting customer demand, which has ensured the effective use of resources. This has increased their competitiveness and established them as a leader in efficient and sustainable production techniques.

Another clothing company based in Sri Lanka, FashionSense, uses AI algorithms to create products that are designed and developed based on data. They regularly produce products that are in line with market trends, which boosts sales and improves customer happiness. They do this by evaluating social media data and client preferences. By using AI-powered virtual fitting rooms, they have raised the bar for online shopping convenience, decreased returns, and increased customer confidence.

Leading garment logistics firm in Sri Lanka, LogisticMasters, has effectively implemented AI-driven route optimization algorithms in the supply chain. Due to this innovation, order fulfillment has accelerated, and costs have been significantly reduced in the distribution and transportation sectors. Their effectiveness has raised customer satisfaction levels and enhanced their operational performance, positioning them as a major player in the supplychain management industry.

Together, Sri Lankan clothing companies are utilizing AI to maintain moral principles and lead the way in sustainability. Through the efficient use of resources and energy, these businesses are exhibiting a strong commitment to environmental stewardship. AI also promotes supply chain transparency by enabling consumers to track the path of their products from point of origin to point of sale, guaranteeing sustainable environmental practices and decent labor conditions.

Looking ahead, artificial intelligence has a bright future in Sri Lanka's clothing sector. Undoubtedly, as AI algorithms continue to develop and mature, more accurate demand forecasts, more productive production techniques, and sustainable

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Trends Reshaping Sri Lanka's Financial Service Industry

Sri Lanka's financial services industry is currently undergoing a significant transformation, driven by a combination of both domestic and global factors, and technological advancements. The industry is experiencing a wave of innovation, regulatory reforms, and shifting consumer preferences as the country struggles with the challenges brought on by the COVID-19 pandemic, the ongoing digital revolution, and the economic downturn. In light of this, it is now crucial for businesses, policymakers, and investors to understand the major trends influencing the industry to negotiate the evolving environment and capitalize on emerging opportunities. From digitization and mobile banking to the growing emphasis on regulatory changes and financial inclusion, this article provides an analysis of the various trends reshaping Sri Lanka's financial service sector, shedding light on the potential implications for industry stakeholders in the years ahead.

Sri Lanka has achieved a high level of financial inclusion compared to other South Asian countries. Its financial sector comprises a wide range of financial institutions. Additionally, a higher percentage of Sri Lankan households use multiple financial institutions to meet their loan and savings needs. The convergence of finance and IT has increased the importance of financial education and awareness. Improving customer protection and the regulatory framework supporting microfinance is also important for promoting financial inclusion in Sri Lanka. There is still room for development in terms of financial inclusion, especially in terms of the cost and quality of financial services and the sustainability of financial institutions.

In recent years, digital banking has grown rapidly in Sri Lanka, where many financial institutions now provide their clients with a wide range of online and mobile banking services. With the help of these services, customers can conveniently manage a variety of banking operations from the convenience of their computers or cell phones, eliminating the need to visit a physical bank branch. The convenience of digital banking is especially beneficial for those who live in remote areas or have busy schedules, as they can avoid traveling to a bank branch or waiting in line to perform transactions. Digital banking in Sri Lanka offers additional safety measures, including encryption, two-factor authentication, and biometric authentication in addition to convenience in protecting users' financial and personal data. This reduces the possibility of fraud and identity theft, which poses major concerns for a lot of consumers. In addition, a lot of Sri Lankan digital banking platforms include other financial services including loans, insurance, and investment alternatives, which help consumers manage their money and make wise decisions.

The pandemic of 2020 caused a major transformation in the financial services industry. The industry at the time achieved years' worth of digital advancement in a matter of months. In the same way, clients were driven to use digital banking to maintain access to their money. Financial service providers conducted aggressive strategies to encourage their clients to adopt the digital services they were already using. This push was successful as the majority of traditional clients started using online platforms. As a result, banks were able to keep their operating expenses down by having to operate out of fewer physical locations.

Regulations must be revised to reflect the evolving financial services sector in Sri Lanka, especially considering the latest trends and the growing significance of data privacy. It is essential for stronger laws to implement strong data protection processes to protect sensitive data and build customer trust. Establishing strict policies to control collecting data, storing, and use, may protect the industry from potential cybersecurity risks and guarantee compliance with international standards. Data privacy is essential in considering Sri Lanka's financial services sector's rising digitization and use of mobile banking. Maintaining client trust is achieved through securing customer data against fraud and identity theft. Effective security measures are necessary to fight against changing threats, maintain financial stability, and promote continuous advancement in technology in the industry. However, Financial services are built on data, whilst the data governance of the industry is a critical concern.

Financial services firms have been under increasing pressure over the past few years to comply with complicated regulations. Without data governance, reporting on and complying with new regulations can be challenging. So, it is essential that Sri Lankan financial services firms adopt data governance quickly to avoid being caught off guard by regulators. In addition, sensible data governance can assist financial services companies in staying one step ahead of authorities in terms of proving the reliability of their data and reducing the possible legal consequences that may result from breaches of privacy.

In conclusion, the way Sri Lanka's financial services sector is growing provides proof of how dynamic the world economy is and how important it is to be adaptable while facing revolutionary changes. The shift towards digital banking shows a more inclusive financial environment, offering opportunities for service improvement and operational efficiency improvements. However, this transformation also presents challenges, including the need for strong security measures and bridging the technological gap for financial inclusivity. To use these changes effectively, collaboration among key stakeholders, including financial institutions and regulatory bodies, is crucial. By promoting innovation while protecting customer interests, Sri Lanka's financial services sector can remain in its leadership position and contribute to the country's sustainable economic growth.

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THE INTEGRATION OF AI in the STOCK MARKET

The stock market is a financial marketplace where individuals and institutions buy and sell shares of publicly listed companies. It is a crucial component of the global economy, enabling companies to raise capital and investors to buy ownership stakes in those companies. Stock prices fluctuate based on various factors, including company performance, economic conditions, and investor sentiment. Investors can profit by buying stocks at lower prices and selling them at higher prices, but risks are also involved, as stock prices can be volatile. The stock market plays a significant role in the investment world and can impact the financial well-being of individuals and businesses alike. The stock market is a sophisticated and dynamic area of investing. Choosing an effective investment strategy is challenging. The main problem is how to foresee things correctly. The market, the economy, and politics all impact stocks. The actions of investors have an impact on them as well. Stock prices may change significantly due to the varying effects of specific causes. It is challenging to develop a simple linear function expression between stock prices and many elements using strict analysis.

As a result, even while many classic investing models can offer some recommendations for investments, they are frequently inadequate for forecasting financial goods that are irregular. The artificial intelligence method has many characteristics, such as nonlinearity, learning, self-organization, and self-adaptation. In complex scenarios, it can effectively make up for the shortcomings of traditional financial measurement models. Therefore, quantitative investment based on artificial intelligence and machine learning technology has developed rapidly, providing investors with effective support. In machine learning, the development of some algorithms has been quite mature, such as the KNN algorithm, k-means algorithm, and so on. Such algorithms can be applied to stock investments and achieve very good results.

Using market data, both historical and current, to spot patterns, trends, and prospective trading opportunities.

This has led to increased precision, improved predicting abilities, and more trade tactics that are effective. A useful application of AI in technical analysis patterns can be recognized. A lot of past pricing data can be scanned by AI algorithms. The practical application of AI to technical analysis has revolutionized the discipline and given traders access to strong tools for deciphering and analyzing market data. Pattern detection, trend identification, forecasting, and trading are all areas where AI systems thrive.

Technology plays a significant and multifaceted role in the stock market, shaping how financial markets operate, how information is disseminated, and how trading is conducted. Here are some key aspects of the role of technology in the stock market:

Technical analysis has benefited from the practical applications of Artificial Intelligence (AI), which have changed how traders examine and interpret market data to make investment decisions. Technical analysts can process enormous volumes of data using machine learning and AI algorithms.

Technical analysts can produce more precise predictions by utilizing AI, determine advantageous possibilities, and improve trading tactics for better results, but it's crucial to keep an eye on and test AI models.

AI (Artificial Intelligence) has brought several benefits and challenges to the stock market:

BENEFITS OF AI IN THE STOCK MARKET:

AI can analyze vast amounts of data at high speeds, allowing for more efficient trading, investment analysis, and decision-making.

AI algorithms can process and interpret unstructured data from various sources, such as news articles, social media, and earnings reports, providing valuable insights that human ana-

lysts may miss. AI enables the automation of trading strategies, reducing the need for manual intervention. This can lead to faster execution and reduced human errors. Models can predict market trends, price movements, and trading opportunities more accurately, aiding traders and investors in making better-informed decisions. AI-driven risk management tools can assess and mitigate portfolio risk, helping investors protect their investments in volatile markets. AI-powered algorithms can adapt to changing market conditions and optimize trading strategies, potentially leading to higher returns. AI-driven robo-advisors and automated trading strategies can reduce the costs associated with human financial advisors and portfolio management.

CHALLENGES OF AI IN THE STOCK MARKET:

AI heavily relies on data quality. Poor or biased data can lead to inaccurate predictions and investment decisions.

AI models can overfit historical data, performing well in the past but poorly in new, unforeseen market conditions. Developing and deploying AI systems in the financial industry must adhere to complex regulatory requirements, making compliance a significant challenge. Some AI models, particularly deep learning models, can be difficult to interpret, making it challenging to understand the rationale behind their decisions. AI models can struggle during periods of extreme market volatility or during unexpected events that have no historical precedent. AI systems in the financial industry are susceptible to cyberattacks, which can lead to data breaches and financial losses.

While AI can automate many tasks, human oversight is still crucial to monitor AI systems, detect errors, and ensure they align with investment goals and ethical standards. AI can be used for nefarious purposes, such as market manipulation or trading based on false information.

The opacity of some AI models can raise concerns about transparency and accountability in financial decision-making. The use of AI in trading and investment can raise ethical questions, especially regarding algorithmic bias, insider trading detection, and fair access to AI-driven tools.

Balancing the benefits and challenges of AI in the stock market requires careful planning, risk management, and ongoing monitoring. Investors and financial institutions must ensure that AI systems are used responsibly and ethically to enhance, rather than disrupt, financial markets. Additionally, regulatory bodies are actively working to establish guidelines and standards for the responsible use of AI in the financial industry.

The use of AI in the stock market is expected to continue evolving, with several future trends and developments on the horizon. Here are some key trends to watch for:

The future of artificial intelligence (AI) is tremendously bright and has already started to transform the business landscape. As AI technology develops, it is anticipated to have a significant impact on many areas of business operations and decision-making. Improved AI has the potential to completely change how businesses are run, from automation to better consumer experiences. Automation is a crucial area where AI is anticipated to have a big impact. AI technology, including natural language, machine learning, and robotic process automation (RPA) processing, may be used to automate routine operations, freeing up human labor to encourage workers to concentrate on more strategic and innovative projects.

When implementing AI in the stock market, it's essential to consider several key recommendations to maximize its benefits while mitigating risks. Here are some recommendations for effectively integrating AI into stock market activities:

Gain a solid understanding of AI fundamentals, including machine learning, deep learning, Natural Language Processing (NLP), and reinforcement learning. This knowledge will help you make informed decisions about AI applications.

Ensure that you have access to high-quality, clean, and up-to-date data for training AI models. Data preparation and preprocessing are often time-consuming but critical steps in AI development. Choose the appropriate AI algorithms and models based on the specific objectives of your stock market activities. Different algorithms may be suitable for trading strategies, sentiment analysis, risk management, and other applications.

Implement robust risk management strategies when using AI in trading. Diversify portfolios, set stop-loss limits, and regularly monitor AI-driven trading algorithms to avoid substantial losses. Stay informed about relevant financial regulations and ensure that your AI systems comply with them. Collaborate with regulatory authorities to address compliance requirements effectively. Prioritize the use of explainable AI techniques, especially when AI-driven decisions have a significant impact on trading or investment strategies. Transparency is crucial for understanding and justifying AI recommendations.

Maintain human oversight in critical decision-making processes. While AI can automate many tasks, human judgment is essential for evaluating AI outputs, especially in unpredictable market conditions.

Implement robust cyber security measures to protect AI systems and financial data from potential threats, ensuring the integrity and security of your operations. Address ethical concerns about AI, including bias, fairness, and responsible AI practices. Regularly review AI models to identify and mitigate biases.

Keep up to date with the latest developments in AI and the stock market. Continuous learning and skill development are crucial to adapt to evolving technologies and market conditions. Collaborate with industry peers, regulatory bodies, and technology providers to establish best practices for AI in the stock market. Sharing knowledge and experiences can help drive responsible AI adoption.

Thoroughly test and validate AI models before deploying them in real market conditions. Use historical data and simulation environments to assess performance and robustness. Continuously evaluate the performance and impact of AI systems against predefined objectives. Make adjustments and refinements as necessary to improve outcomes. If you're new to AI in the stock market, start with small-scale projects to gain experience and build confidence. Gradually expand AI integration as you become more proficient. Invest in education and training for your team to ensure they have the necessary skills and knowledge to work effectively with AI technologies.

By following these recommendations, you can harness the power of AI in the stock market while minimizing risks and maximizing the benefits of improved decision-making, efficiency, and portfolio management.

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Development Through SMEs

According to the Central Bank of Sri Lanka (CBSL), Small and medium-sized enterprises (SMEs) are organizations with a limited scope of activities that include both small companies and medium-sized businesses. In Sri Lanka, a business is categorized as a Small and Medium-sized Enterprise (SME) when it employs fewer than 300 individuals and records an annual revenue that does not surpass 750 million LKR. This classification is used to identify and support the growth and development of smaller businesses within the country.

Small and Medium-sized Enterprises (SMEs) constitute a vital backbone of Sri Lanka's economy, making up more than 75% of the country's businesses. Their impact is far-reaching, contributing to over 20% of the nation's exports, providing employment opportunities for approximately 45% of the workforce, and accounting for a substantial 52% of the country's GDP.

HOW SMES HELP SRI LANKA'S ECONOMY

Small and Medium Enterprises (SMEs) are essential to boosting Sri Lanka's economy in several ways. They primarily absorb a significant proportion of the nation's labour force and contribute significantly to employment generation. This will help in reducing poverty in addition to easing unemployment. In addition, SMEs often act as incubators for new concepts and businesses and support innovation and entrepreneurship as they contribute to economic diversification. They reduce geographic disparities by working across the nation and fostering regional development. Additionally, because they are more able to adjust to changing market conditions and less vulnerable to external economic shocks, these businesses often support economic stability and resilience. Finally, SMEs help to broaden the tax base and increase government revenue.

HOW CAN TECHNOLOGY BE USED TO DEVELOP SMES IN SRI LANKA?

Small and Medium Enterprises (SMEs) in Sri Lanka may benefit from technology by providing them with tools and solutions that increase their productivity and competitiveness. First, SMEs may increase their market presence and reach by using digital marketing tools like social media platforms and online advertising. These companies may sell their goods and services online both nationally and abroad by tapping into global marketplaces thanks to e-commerce platforms and payment gateways. Services for cloud computing may lower the cost of IT infrastructure, make data storage and administration easier, and improve operational effectiveness. Additionally, enterprise resource planning (ERP) and customer relationship management (CRM) systems use data analytics to simplify internal operations, automate jobs, and deliver insightful information. Mobile apps may enhance customer involvement and service delivery, while online training and e-learning tools help upskill the staff. In conclusion, utilizing digital tools enables SMEs in Sri Lanka to flourish in a business climate that is continually changing and competitive, promoting development and sustainability.

On the other hand, by increasing efficiency, productivity, and creativity, Artificial Intelligence (AI) technology will greatly support the growth of Sri Lanka's Small and Medium Enterprises (SMEs). One effective tool is data analytics powered by AI. SMEs can use data analytics technology to learn important insights about markets, customer behaviour, and operational performance. Thanks to this data-driven strategy they can efficiently modify their products and services to match market needs, which also helps them optimize their supply chains and make informed choices. Another facet of AI is chatbots, and virtual assistants can automate repetitive tasks to improve customer service and free up human resources for more important duties.

TECHNOLOGY ADOPTION IN OTHER COUNTRIES

Small and medium-sized enterprises (SMEs) around the world use technology differently, but it is becoming increasingly critical to survival. SMEs are often early adopters of new technology in countries like the US, using technologies such as cloud computing, e-commerce platforms, and AI to streamline operations and access larger markets. SMEs are using technology to increase productivity and expand their reach in growing markets such as China and India. Recognizing that technology can accelerate economic growth and job creation, governments and industry organizations in several countries offer incentives and support to encourage SMEs to adopt it. Although influenced by regional factors, the adoption of technology by SMEs is a worldwide trend driven by the search for innovation, cost-effectiveness, and better market access.

WHAT IS THE CURRENT TECHNOLOGY ADOPTION OF SRI LANKAN SMES

However, technology adoption in rural areas and traditional sectors, such as agriculture and manufacturing, was lower. Limited access to the internet, digital infrastructure, and a lack of awareness and skills were some of the challenges hindering technology adoption in these areas. Modernity quickly alters many facets of existence, including individuals, groups, and enterprises. Small and medium-sized businesses (SMEs) are essential for creating jobs and increasing GDP. However, Sri Lankan SMEs' failure to accept new technologies might prevent them from operating to their full potential. The results demonstrated how adopting modern technology improves the organizational performance of SMEs in Sri Lanka. The aim of SMEs to use innovative technology to improve company performance should be the main topic of future study.

HOW CAN THE GOVERNMENT AND OTHER PARTIES HELP TO DEVELOP SMES-IMPROVING TECHNOLOGY?

To encourage the growth of SMEs and enhance technology adoption in Sri Lanka, a concerted effort including the public sector, the private sector, and other stakeholders is essential. Governments may entice SMEs to invest in technology and innovation by offering financial incentives, tax cuts, and subsidies. Furthermore, it is crucial to have a supportive regulatory framework that makes it easier for firms to launch and grow. Digital literacy and technical skills among SMEs and employees can be improved via government-funded training programs and seminars. Access to funding, mentoring, and technical infrastructure can be made easier through collaborations with businesses in the private sector and international development organizations. Lastly, encouraging R&D collaborations between universities and SMEs may spur innovation and the expansion of tech-savvy SMEs in Sri Lanka.

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Financial Mathematics
and the Future
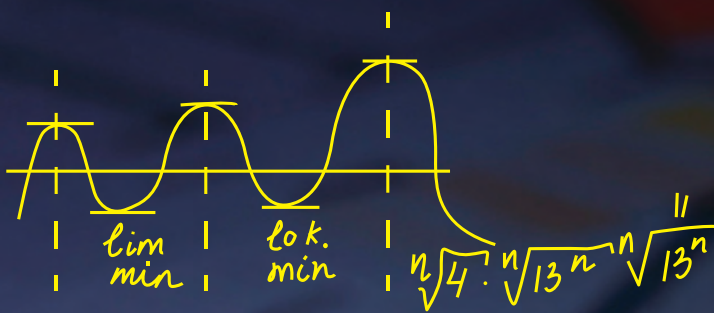
$FV = PV (1 + i)^n$

New development and change are inevitable in our fast-paced world. Modern employees and students are driven to up their game to keep up with the rest of the world because technological advances and developments are the primary cause of ongoing change. Due to Artificial Intelligence's (AI) potential to replace human labor, this is both a benefit and a threat simultaneously. In other words, AI is better at what we can accomplish than we are. The younger generation's interest in learning about finance and risk mitigation has increased as a result of constant change and attempts to adapt to that change.

As complicated and intriguing as the term Financial Mathematics can be, it makes complete sense because Finance and Mathematics are two things that go hand in hand. Financial mathematics is a branch of mathematics that deals with financial markets and instruments as well as the application of mathematical methods and techniques to solve financial problems. It combines mathematical theory with financial concepts to make informed decisions in the finance sector. It is an essential tool in the modern world as it helps in making informed financial decisions, managing risks, and maximizing returns.

When we speak of Investment Management and building portfolios, the ideal mix of assets needs to be determined to generate the highest return given a certain amount of risk tolerance. Managing market risk, credit risk, and operational risk especially in the field of insurance and derivatives requires the use of sophisticated mathematical models. Such financial models can be used to evaluate investments, forecast financial performance, and assess the impact of various scenarios in order to simulate and analyze market behavior while testing the sensitivity of portfolios to different variables. Assessing creditworthiness, evaluating loan applications, and setting interest rates requires risk assessment, which can be done by mathematical models. These are all a few ways in which Financial Mathematics is used, and we can see the integral role played by it.

Financial Mathematics has become increasingly important in the modern financial sector, as it allows for developing models and algorithms to help institutions make better financial decisions and manage risks more effectively. The future of financial mathematics looks promising as advancements in data analytics and Artificial Intelligence continue to reshape the finance industry. The demand for financial mathematics has boosted the finance sector in various ways:

Risk Management: Assessing and managing risk in the finance sector using mathematical models and algorithms can be done with the help of financial mathematics. Professionals in the field can quantify and predict risk levels, making it easier to develop risk management strategies and prevent potential financial losses.

Investment Analysis: Financial mathematics helps investment analysts identify and evaluate investment opportunities. Using mathematical models and techniques, analysts can analyze historical data, forecast future trends, and determine optimal investment strategies.

Portfolio Optimization: Financial mathematics is instrumental in portfolio optimization. By utilizing techniques such as mean-variance analysis, financial professionals can construct portfolios that maximize returns while minimizing risk. These mathematical models allow for efficient allocation of assets to achieve desired investment objectives.

Options Pricing: Options are financial derivatives that rely heavily on mathematical models in order to determine their fair value. Pricing options accurately is a tedious task with many variables in play, and with the help of financial mathematics, efficient methods of deriving a pricing strategy by taking all the uncertainties and variables have become possible. This enables traders to make informed decisions regarding derivative trading, hedging, and risk management.

Integration of Technology with Financial Mathematics

Technology is the center of all advancement, and the future of every industry, including the finance sector, depends on this. The discovery of new methods to automate specific tasks with the help of technological tools has made the task of a financial analyst much easier. Financial mathematics and technology can be used together to enhance various aspects of finance and solve complex problems. Here are a few ways in which they can be integrated in order to make the best use of both.

- Algorithmic Trading: With the help of financial mathematics and mathematical models, profitable trading opportunities can be identified based on predefined mathematical rules. Trades can be carried out without a hassle and at high speeds while managing risk effectively due to this technological innovation in finance.
- FinTech: Financial technology is used to describe new technology that seeks to improve and automate the delivery and use of financial services by using specialized software and algorithms. The application of financial and mathematical functions enables the formulation of the best-suited algorithmic instructions based on the quantitative information gathered. This technology is applied through robo-advisors, peer-to-peer lending apps, and investment apps, among others.
- Data Analysis: Financial mathematics plays a critical role in sorting and classifying data as well as presenting data in a user-friendly manner. Statistical analysis and regression models can be used to analyze and forecast data while extracting meaningful insights that support decision-making in investment, risk management as well as financial planning.
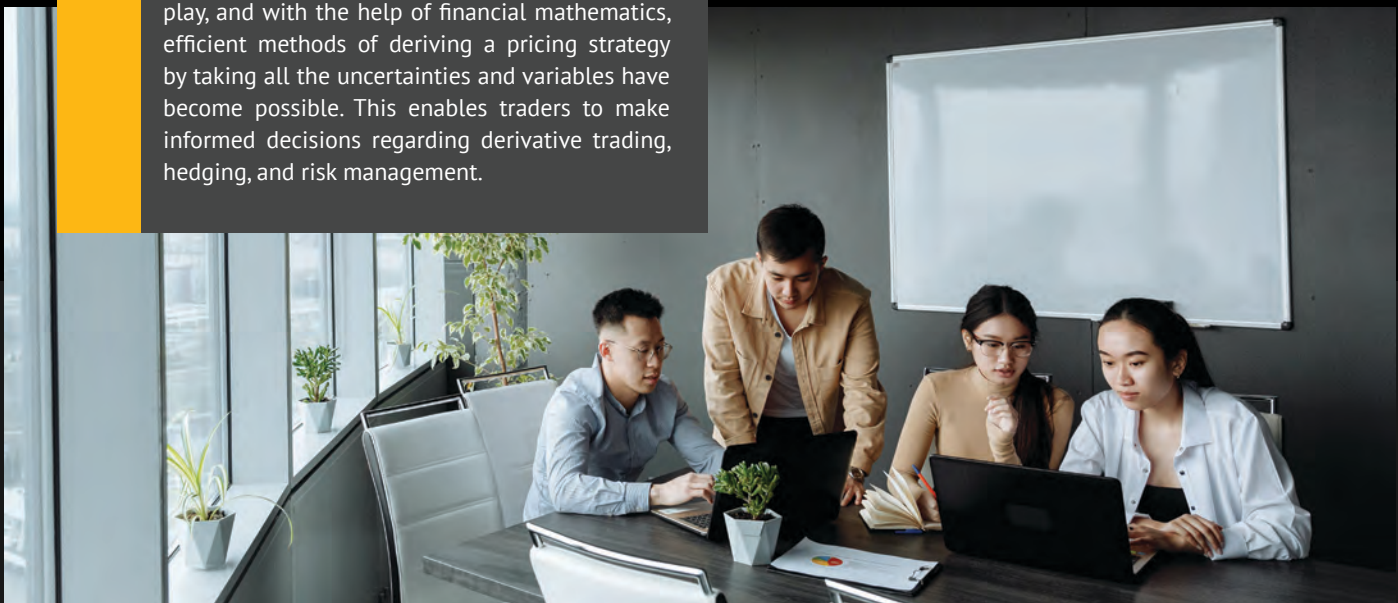
The modern education system's implementation of financial mathematics in its curriculum

Recent demand in the field of finance has made it essential for grooming the future generation with the necessary knowledge and skills to enter an industry that has a high amount of competition. By studying the contents of this area as an undergraduate, students can cut down the competition and reach greater heights. Undergraduates have been offered special degree programs that equip them with a vast amount of knowledge, training, and expertise. State universities in Sri Lanka offer many Bachelor's degree programs such as Finance, Insurance, Financial Engineering, Business Science, and Mathematics that provide an understanding of how to combine mathematical theory and methods with finance and provide solutions to problems and challenges.

The devastating after-effects of the global pandemic and how the Finance industry recovered with the help of financial mathematics

Financial mathematics played a crucial role in assessing and managing the risks associated with the pandemic. Financial models and testing helped institutions understand the potential impact of various scenarios on their portfolios and make informed decisions. Investors were given the necessary information in order to rebalance their portfolios and mitigate losses by quantifying risk exposure. Along with economic modeling, financial mathematics has provided a basis for forecasting economic indicators and assessing the trajectory of post-pandemic recovery.

Financial mathematics helped the finance sector recover from the impacts of COVID-19 by providing quantitative tools and models to assess risks, optimize portfolios, price financial instruments accurately, forecast economic indicators, and execute algorithmic trading strategies. These mathematical techniques facilitated decision-making, restored market confidence, and supported the sector in adapting to the new normal.

Financial mathematics and what we can expect in the future

Understanding financial mathematics can help traders analyze financial data to make predictions and choose the right stocks to buy and sell. This requires a high level of critical thinking and interpretation skills. While the rise of Artificial Intelligence will undoubtedly cause a massive change and advancement in the industry, it cannot understand the psychological and behavioral aspects of finance. The role of a financial advisor or analyst will be required even with all the technological development because of the experience he or she will provide to a client or investor. A computer may be able to allocate your portfolio, but it can't help you create context around what is happening in the markets and navigate you through your decision-making process based on your current situation.

Financial mathematics is a key area in finance because it provides a basis to apply techniques in order to assess risk, make improved investment decisions, optimize portfolios, price financial derivatives efficiently, and conduct an overall rigorous analysis of data. With the continuous growth and evolution of the finance industry, the demand for financial mathematics is expected to grow, making it an essential skill for professionals in the finance sector. Technological advancement allows for more sophisticated and robust financial analysis and automation of specific tasks through algorithms developed with mathematics as the core. By having a broad understanding of financial mathematics, professionals are equipped with the ability to manage complex financial systems and formulate more effective strategies.

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THE PYRAMID SCAM

An Overview of a Path Where the Blind Are Led by the Blind

Starting with the 'No Popit on Weekends' pyramid scheme, which has gained prominence in our emerging economy, it's vital to comprehend that a pyramid scheme is a deceptive business model. It entices individuals with promises of financial rewards for recruiting others into the scheme rather than through legitimate investments. The core flaw of pyramid schemes is their reliance on recruiting an ever-increasing number of investors, ultimately leading to their downfall. This is due to the finite number of potential participants within any given community.

During the period from the Easter attacks in 2019 to the onset of the COVID-19 pandemic in 2020, Sri Lanka endured a protracted economic downturn. The nation grappled with an array of challenges during this time. These challenges encompassed restrictions on exports, a substantial increase in the dollar's exchange rate, and ill-advised decisions made by the central banks. Notably, one such detrimental decision was the excessive printing of money, which significantly expanded the money supply. Unfortunately, this expansion coincided with a decline in the availability of goods and services in the market. As a consequence of this economic environment, pyramid schemes found fertile ground for proliferation, especially in the post-pandemic era.

At first glance, pyramid schemes may indeed appear to be a promising investment, offering quick and substantial returns. However, it's essential to recognize that the profitability of these schemes is short-lived, as they inevitably evolve into pyramid scams, ultimately leaving many individuals financially devastated. Understanding that these returns were paid out of the new investments that flowed into the scheme is crucial. Over time, the pool of potential investors becomes exhausted, and the pyramid inevitably collapses, leaving the majority of participants at the bottom with significant financial losses.

A pyramid scheme is a fraudulent money-making system that relies on recruiting a growing number of "investors."

Initially, a small group of promoters recruits investors, who then recruit more investors, and this recruitment process continues. The term "pyramid" is used because, at each level, the number of investors multiplies. The handful of early promoters at the top of the pyramid require a substantial base of later investors to sustain the scheme by generating profits for the earlier participants. These schemes are essentially akin to a house of cards, poised to collapse, and in their wake, they leave numerous victims who have suffered financial losses.

Pyramid schemes collapse when new participants decrease due to their fundamental flaws. They rely on a constant influx of recruits to pay returns to those at the top. The collapse begins with recruitment dependency. These schemes depend on recruiting more investors. They promise significant returns to those who bring in others. But, their downfall arises from the constant need for fresh recruits. As new entrants dwindle, the scheme faces problems. It reaches a point where it struggles to find new investors and fulfill prior promises. Those at the lower levels suffer losses, making the scheme unsustainable. Eventually, the pyramid crumbles, leaving victims who've endured financial hardships, highlighting its deceptive nature. People at the top leave when profits dry up.

Pyramid scams lure individuals with grand promises, only to end in disappointment and financial ruin. Initially, these schemes seem like dreams come true, but they often turn into nightmares. The post-pandemic era brought severe economic challenges for many, spanning all income levels. People had to deplete their savings during the pandemic to cover basic living expenses and healthcare needs. Consequently, there was a widespread desire to boost income in various ways after the pandemic.

Regrettably, a lack of awareness about financial scams in Sri Lanka led to many people investing in pyramid schemes, which are ultimately illegal in the country. Those who fall victim to such scams find no one to hold accountable. The collapse of these schemes deepens financial turmoil, with some resorting to loans or selling assets in pursuit of higher returns. This often results in legal battles that further erode income and worsen financial burdens.

However, it's crucial for every citizen investing in such schemes across Sri Lanka to understand that no one will take responsibility for their money in the event of losses. In a pyramid scam, only those at the top benefit, leaving everyone else empty-handed and struggling financially.

The Psychological Aspects of the Pyramid Scam

Pyramid scams are deceptive schemes that manipulate people's hopes and aspirations, often functioning as a psychological game. These scams prey on individuals' short-sightedness, making them believe in parallel lines that never intersect, perpetuating a false sense of opportunity.

Social media campaigns often promote these pyramid schemes, which in the past were disguised as "Network Marketing." These schemes employ various marketing techniques to influence and persuade people. They have gained popularity through effective marketing on social platforms, sometimes even by individuals unaware of the scam, and by leveraging the influence of prominent figures to expand their reach rapidly.

One common tactic to lure people into these schemes involves showcasing profitability charts and substantial bank account balances, exploiting the psychological desire for success and wealth.

These schemes often organize events, WhatsApp group calls, and various meetings at different locations to gain people's trust, portraying themselves as legitimate businesses. High-pressure sales presentations are delivered during these gatherings, and individuals are enticed with attractive opportunities to join. It's important to note that people from diverse backgrounds, including those with advanced degrees and everyday citizens, can fall victim to these scams due to a lack of financial literacy. They get caught in the psychological complexities of these schemes, making it difficult for them to recognize the fraudulent nature of the operation.

Financial Literacy in Sri Lanka

Financial literacy is crucial for making informed financial decisions. However, according to an Asia Securities survey in Sri Lanka, it lags at just 35%, despite an impressive overall literacy rate of 92%. This deficiency can lead to financial instability and missed opportunities, ultimately affecting the nation's financial well-being. The lack of emphasis on financial education in the school curriculum contributes to this gap. Government initiatives and literacy programs have not adequately addressed financial education at the secondary level, perpetuating the problem.

Moreover, understanding financial literacy is essential for recognizing and avoiding pyramid scams, phishing scams, identity theft, credit card fraud, and real estate and rental scams, which regrettably affect many in Sri Lanka. Those with financial knowledge are better equipped to identify and escape such scams. Improving financial literacy is vital for individuals and the nation's financial stability, but a substantial gap in education needs to be addressed.
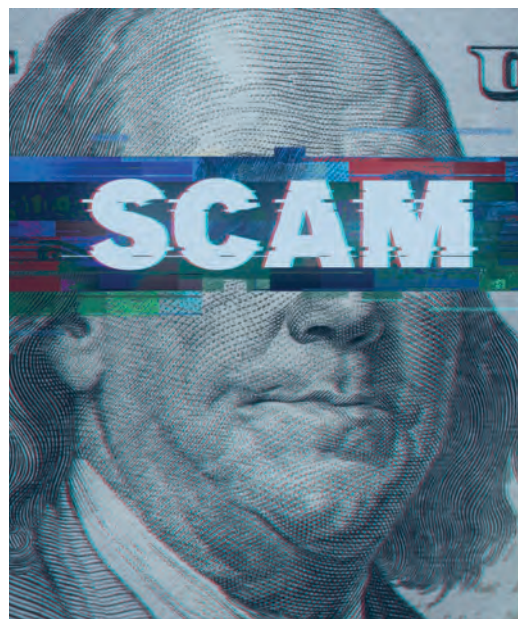
Individuals with a solid understanding of finance are better equipped to navigate scams, while those lacking financial knowledge often turn to the government or external entities when faced with challenges. Scammers exploit this dependence, targeting ordinary individuals with little time or expertise to pursue legal action.

Sri Lanka's history of dependency and its impact on economic and political practices continue to affect how individuals approach financial matters and handle scams. This dependence on external support presents challenges in addressing issues like pyramid schemes.

Recovering from Scams

The journey to recovery largely relies on individuals. Despite the Central Bank of Sri Lanka (CBSL) banning nine entities, including Tiens Lanka Health Care, Best Life International, Global Lifestyle Lanka, Mark-Wo International, VML International, Fast 3Cycle International (F3C), Sports Chain App, Sports Chain ZS Society Sri Lanka, OnmaxDT, and MTFE App, pyramid schemes continue to operate across the country.

The first and most crucial step should involve thorough education about any investment or business opportunity before engaging in it. It is mandatory to check if the institution is licensed or registered with the CBSL. Possessing good financial literacy can guide us toward sustainable investment choices. Additionally, there is a seven-step identification process to identify pyramid scams:

1. Is there a legitimate product?
2. Are earning claims too good to be true?
3. What does it cost to join?
4. Do you understand the marketing plan?
5. Are products used by consumers?
6. Is there an emphasis on recruitment?
7. What happens with unsold inventory?

This basic analysis is essential for any institutional organization. Cyber scams are increasing as technology advances, making staying updated crucial for safeguarding against such threats. Breaking free from the dependency that has plagued Sri Lanka for decades is paramount. Pointing fingers at others is not the best approach; instead, we should strive to prevent more people from falling into the same traps.

It's vital not to believe everything at face value but to base our beliefs on practical truths. Pyramid schemes are like the blind leading the blind into a trap with no way out except financial loss. There are many more trustworthy earning methods available.

While it's true that higher risks can yield higher returns, it's unwise to invest all your money in high-return investments. Investments should come from surplus funds, not your entire savings for survival. Diversifying your investments across a portfolio can reduce risk while potentially increasing returns. It involves allocating resources across various asset classes like stocks, bonds, and real estate, safeguarding your financial future more effectively.

The mysteries of Egypt's pyramids captivate, but the secrets of pyramid schemes lead only to financial ruin. Let the majesty of the Egyptian pyramids remind you that true wealth is built with patience and integrity.

In the world of finance, there are no shortcuts; it's about making the right choices. Invest in your future wisely, as pyramid scams only lead to regret.

"Protect your wallet and your dreams; steer clear of pyramid scams."

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FUTURISTIC
DECISION MAKING

Decision-making is the key to success in an organization. This core process has been shifting its strategies with time to match the current world. Traditionally decision-making was done by the top management, centralizing the authority. A few stages later decentralization emerged where decision-making authority was delegated to lower-level managers as well which led to the improvement of decisions. Due to upcoming technological advancements and the development of Artificial Intelligence (AI), decision-making has drastically changed in various sectors, mainly governments and the corporate world. Artificial Intelligence has swiftly become a transformative force in the business world, reshaping industries and redefining the way companies operate. The future of decision-making is based on data. The emergence of concepts such as big data, IoT (Internet of Things), cloud computing, etc. has enabled computer systems to gather a huge volume of data. This data can be used for organizational decision-making.

Technology advancements have massively impacted businesses toward success by improving their process, reducing costs, performing innovation, gaining better insights, driving new revenue opportunities, etc. The rise of Artificial Intelligence has enabled businesses to go beyond what was possible only with human intelligence. AI is the simulation of human intelligence processes by machines, especially computer systems. In other words, it is a machine's ability to perform the cognitive functions we usually associate with human minds. There are six branches of AI; Machine Learning, Neural Networks, Expert Systems, Robotics, Natural Language Processing, and Fuzzy Logic.
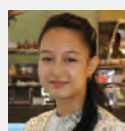
AI can be used in various business functions such as operations, marketing, finance, supply chain management, logistics management, accounting, e-commerce, and many more. This technology can help businesses in countless ways. To name a few; improve their products, detect defects, forecast sales and demand, ease out the procurement process, handle customer complaints, assist innovation, predict unexpected encounters, forecast economic conditions, fraud detection, customer relations management, and the list goes on.

So how can a business make use of AI for decision-making? Suppose an ice cream shop bookkeeping its sales on a daily basis. AI will help to analyze this information identify patterns in sales and forecast the demand. This can also be used to analyze customer preferences and customize products if needed. Furthermore, this can also help the business come up with new flavors, and identify seasonal deviations and methods to maximize sales. Therefore, AI can improve the overall productivity of the business. A few examples of practical applications of AI for businesses are; robo advisory, algorithmic trading, process, spam filters, security surveillance, and chatbots.

Due to the lack of knowledge, AI is often seen as a tool replacing human intelligence posing a threat to many jobs and having them feel intimidated. AI will help increase the living standards of humans by making life easier but this cannot fully replace human intelligence. No matter how advanced technology gets, it cannot replicate aspects such as experience, creativity, empathy, human-like understanding, intentionality, and intuition. Due to AI being a fast-growing global trend even though AI cannot replace humans, humans with AI will replace humans without AI.

AI should be used with great responsibility. Considering all of the said uncountable advantages come some threats and drawbacks. Just like any other technology AI too can be misused. It also raises ethical issues including data privacy and algorithm bias. Its inability to identify and react to human emotions can also raise concerns.

AI is not a static technology and it continues to evolve rapidly. As businesses look to the future, they should be prepared to adapt to new AI developments and embrace the possibilities they offer. Companies that successfully integrate AI into their operations will likely enjoy a competitive advantage and thrive in the increasingly digital and data-driven business landscape.

 AI analyzes large data sets and learns from them to come up with predictive decisions. It provides insights into data that may be missed when observed by a human. AI leads to quick, more accurate decision-making. This revolutionary technology has changed and can change the way businesses think and act.

Implementing an AI system is known to be a massive investment and requires highly skilled experts Therefore, this has been limited to the large high-tech corporations to implement AI to make the decision economical. Microsoft, OpenAI, Amazon, Meta platforms, Tesla, Upstart, and Netflix are some big corporations that are pioneers in using AI. Such technology should not be held back and be limited only to large corporations. The focus should be given to discover ways how AI could be used for decision-making in SMEs as well.

Technological literacy on AI will enable small-scale businesses to implement AI for their decision-making. There is more and enough data that gets generated on a daily basis. This data can be used to create an AI system that will give us an insight into what we are missing. Machine learning is one of the most common types of AI in development for business purposes today. Machine learning is primarily used to process large amounts of data quickly. These types of AIs are algorithms that appear to learn over time.

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> **I Can Earn More Money If I Go Abroad.**

> **I Am Not Happy To Live In Sri Lanka**

A HOUSEWIFE

A DOCTOR

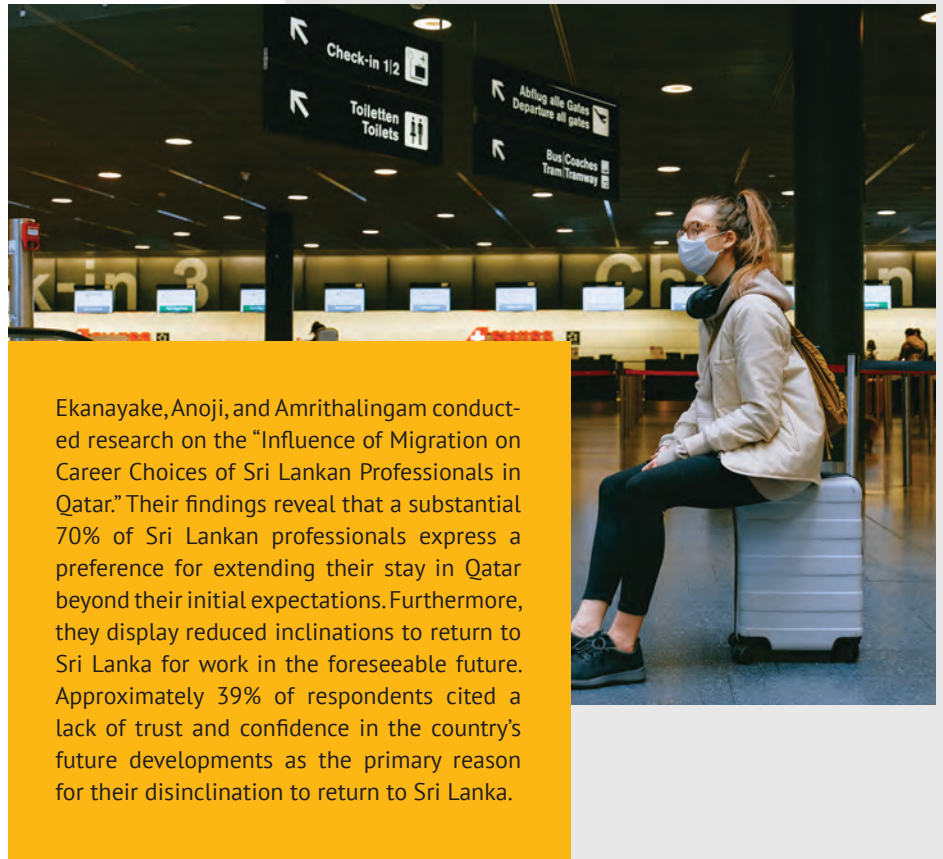# UNRAVELING
DRAIN: WH
HEAD

Sri Lanka Is On An Economic Bomb.

A UNIVERSITY LECTURER

G THE BRAIN
ERE ARE WE
DING?

Introduction

Highly educated and skilled professionals in developing countries tend to migrate toward developed countries; Brain Drain, or Human Capital Flight, refers to the emigration of highly skilled and educated individuals from one country to another: often due to better opportunities, high salaries, or political instability in their home country.

In the context of Sri Lanka, Brain Drain refers to the significant outflow of talented professionals, including Doctors, Engineers, Scientists, and other skilled workers, who leave the country in search of better prospects abroad.

Ekanayake, Anoji, and Amrithalingam conducted research on the "Influence of Migration on Career Choices of Sri Lankan Professionals in Qatar." Their findings reveal that a substantial 70% of Sri Lankan professionals express a preference for extending their stay in Qatar beyond their initial expectations. Furthermore, they display reduced inclinations to return to Sri Lanka for work in the foreseeable future. Approximately 39% of respondents cited a lack of trust and confidence in the country's future developments as the primary reason for their disinclination to return to Sri Lanka.

Causes of Brain Drain

A combination of economic, social, and political factors primarily drives the brain drain in Sri Lanka. In Sri Lanka, brain drain primarily occurs because of political corruption and a lack of career opportunities for skilled professionals.

Limited Opportunities:

One of the leading causes of brain drain in Sri Lanka is the inadequate availability of employment opportunities within the domestic job market to accommodate the growing number of highly talented graduates. As a result, many of these graduates are compelled to seek better prospects overseas.

Political instability:

Political instability and economic uncertainty have played a significant role in exacerbating the brain drain situation. The absence of a stable environment and consistent policies in Sri Lanka has deterred numerous skilled individuals from choosing to remain and utilize their talents in the nation.

Higher salaries and better living standards abroad: Higher salaries and better living standards abroad:

Economic factors are a pivotal driver of brain drain. Skilled professionals are frequently drawn to countries offering more competitive salaries, improved working conditions, and higher living standards. The appeal of these opportunities overseas is a compelling incentive for professionals from Sri Lanka to seek opportunities abroad.

Effect on the home country.

Brain drain can have negative effects on Sri Lanka and positive effects, as it may lead to a shortage of skilled labour and human capital, hinder economic growth, and exacerbate social and political problems.

Brain drain results in losing valuable human capital to the source country. Highly skilled and educated individuals contribute significantly to a nation's economic and technological development. When they leave, their expertise and knowledge are no longer available to contribute to the country's growth. Brain drain can lead to decreased talent to drive innovation and technological advancements in the home country. This can stifle economic growth and competitiveness. And this can lead to a demographic imbalance in the home country as younger, educated individuals leave for opportunities abroad. This can impact the labor force and the country's ability to address the important issue.

While brain drain can cause loss of talent, there are

also some potential benefits for the home country; Emigrants who have left their home country often send remittances back to their families and communities. These financial contributions can have a positive impact on the Sri Lankan economy. Some of Sri Lanka's experts acquire valuable skills and knowledge while working abroad, which they may later bring back to their home country. This knowledge transfer can benefit local businesses and institutions, improving productivity and competitiveness. Some expatriates return to Sri Lanka intending to start their own businesses or invest in existing ones.

Their capital and expertise can stimulate economic growth, create jobs, and foster innovation. Sometimes, expatriates return to Sri Lanka after gaining experience and expertise abroad. This "reverse brain drains" can return valuable human capital and contribute to the country's development. Sri Lankan professionals working abroad can establish valuable international networks and partnerships. These connections can facilitate trade, investment, and collaboration between Sri Lanka and other countries.
However, it is important to note that while there can be positive impacts, brain drain has its downsides, including a potential loss of critical human capital, shortages of skilled professionals in key sectors, and the risk of perpetuating a migration cycle. To maximize the benefits of brain drain, Sri Lanka should implement policies that encourage the return of skilled expatriates , promote investment in education and training, and create an environment conducive to innovation and entrepreneurship.

Steps Taken by the Government

The government has invested in improving the quality of education at all levels, including primary, secondary, and tertiary education. This is aimed at producing a more competitive workforce and retaining talented students and professionals. Scholarships for higher education in prestigious institutions both within the country and abroad are offered to encourage students to stay in Sri Lanka. Providing financial incentives and opportunities to retain skilled professionals, Encouraging research and innovation by funding research projects, and Creating a conducive environment for high-skilled job opportunities in various sectors to keep talented professionals in the country.

In conclusion, Sri Lanka's policymakers must adopt a proactive approach to tackle this issue. They need to create an environment that nurtures innovation, entrepreneurship, and employment opportunities. This could involve fostering stronger ties with the global diaspora, creating a supportive ecosystem for startups and technology-based industries, and implementing educational reforms to align skills with market demands.

Furthermore, investing in research and development, improving the healthcare system, and addressing political stability and corruption concerns are essential for retaining local talent. Brain gain should be the ultimate goal, where the knowledge and skills of Sri Lankan expatriates return to contribute to the country's development.

In the end, addressing brain drain is not just a matter of policies and strategies but also a collective effort of the government, private sector, and civil society. Together, they can work towards reversing the brain drain trend and transforming it into a brain gain phenomenon that propels Sri Lanka to greater heights on the global stage.
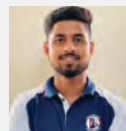
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SRI LANKA
DEVELOPMENT UPDATE

NAVIGATING CHALLENGES, PURSUING GROWTH

Sri Lanka, an island in the Indian Ocean, is going through a dynamic transformation. The "Sri Lanka Development Update" provides a comprehensive snapshot of the country's recent progress and ongoing challenges in its quest for economic and social development.

Economic Growth and Stability Sri Lanka has been experiencing very slight economic growth in recent years. With a focus on industries like tourism, agriculture, and manufacturing, the country has managed to achieve consistent GDP growth even though the overall value is not a great one. However, according to the latest South Asia Economic Focus and the Sri Lanka Development Update, Sri Lanka's real GDP is expected to fall by 9.2 percent in 2022 and a further 4.2 percent in 2023. Sri Lanka face an unsustainable debt and a severe balance of payments crisis, which is hurting growth and poverty.

As a result of credit rating downgrades in 2020 Sri Lanka lost access to international financial markets. Without market access, Sri Lanka managed to pay off debts and pay for the imports using state reserves and loans granted by the banking sector. As a result, Official reserves dropped from US$7.6 billion in 2019 to less than US$400 million (excluding a currency swap equivalent to US$1.5 billion with China) in June 2022. Net foreign assets in the banking system also fell to US$ -5.9 billion in June 2022. This severe forex liquidity constraint has been felt across the economy, particularly from the second quarter of 2023, with shortages of fuel, medicines, cooking gas, and inputs needed for economic activity. Amid depleted reserves, Sri Lanka announced an external debt service suspension in April 2022 and later appointed legal and financial advisors to support debt restructuring. However, political tensions remain elevated with the continued economic crisis. This situation affected mass development in the past few years of Sri Lanka in a negative way.

Anyhow, Sri Lanka continues to attract foreign direct investment and expand its trade networks. Favorable trade policies and investment incentives are making the country an attractive destination for business. As per the provisional data released by the Sri Lanka Customs Sri Lanka's merchandise exports increased by 6.98% to US$ 1,091.6 Million in August 2023 compared to July 2023, according to the Export Development Board (EDB), however, it is a 10.91% decrease when compared to the value recorded in August 2022. Sri Lanka has been listed as one of the 50 best islands in the world for travel for 2023 by Big 7 Travel. The island nation was ranked 13 in the annual round-up of the world's best islands. These global admires have affected the country in a good way.

Even though Sri Lanka is in an economically bad situation, investment in infrastructure projects, particularly in the transportation and energy sectors, has played a major role in driving economic growth. Sri Lanka is making progress in building modern and sustainable cities to support its urbanizing population such as Colombo Port City, Colombo Lotus Tower, ⊠Sheraton Colombo etc. When managing these infrastructure and development projects in Sri Lanka, the fluctuating construction workload, unfair competition by foreign contractors, skills drain and shortages, and high cost of developing skills were the main identified problems.

Sri Lanka is working on their infrastructure and economic growth but the biggest problem of poverty is expected to have increased in 2023 due to the contraction in the economy. Poorer households are hardest hit owing to food inflation, job losses, limited fertilizer supply, and a drop in remittances. Even though social assistance helps in some ways, it is insufficient for the significant real income losses. The goods trade deficit declined by 18.6 percent year-on-year in the first half of 2022 as exports, particularly textiles, grew faster than imports, which were largely financed by Indian financial support of approximately US$3.8 billion. With declining remittances and limited tourism receipts, the current account deficit is expected to have increased in this period. Efforts to reduce poverty and inequality through social programs and policies have yielded positive results. The government has implemented targeted initiatives to uplift selected communities and improve income distribution as well.

Sri Lanka while managing those good and bad things in the economy as an emerging country, is looking forward to enhance its education and healthcare systems. Access to quality education is improving, and there are ongoing efforts to support the healthcare infrastructure to ensure the well-being of its citizens. Sri Lanka is allocating a huge amount of country's resources for education and healthcare but efforts are still traditional as not give much attention to new technology-based trends such as,

- Virtual & Augmented Reality.
- Wearable/Portable Technologies & Mobile Health.
- Digital Health and Telehealth.
- Robotics.
- Remote Health Monitoring.
- Artificial Intelligence (AI)
- Computer-Assisted Learning (CAL)

Not only that but also Sri Lanka is actively addressing environmental concerns and climate change. Conservation efforts, renewable energy projects, and initiatives to reduce carbon emissions are gaining action. However, Sri Lanka faces a host of environmental problems such as land degradation, pollution and poor management of water resources, loss of biological diversity, coastal erosion, increasing scarcity of water for agriculture, waste disposal in urban areas, and traffic congestion in the main cities.

Technology also provides many solutions to help society become more sustainable. Smart building systems, robotics, and digital twins can help organizations become more efficient and shrink their carbon footprint. Cloud computing lets utilities manage energy sustainably across entire grids. Emerging technologies that are contributing to environmental sustainability include artificial intelligence (AI), blockchain, internet-of-things, and big data. According to the Council on Foreign Relations, AI can help reduce up to 80 percent of CO2 emissions by 2050.

While Sri Lanka is making progress, several challenges also exist. Sri Lanka's longstanding structural weaknesses were higher by several shocks, which ultimately plunged the country into an economic crisis. Poor governance, a restrictive trade regime, a weak investment climate, episodes of loose monetary policy, and an administered exchange rate contributed to macroeconomic imbalances. Fiscal irresponsibility produced significant gross financing requirements and substantial fiscal deficits, which when combined with risky commercial borrowing increased debt vulnerabilities. Ill-timed tax cuts in 2019 further eroded weak fiscal buffers and led to a rapid growth in debt to unsustainable levels.

The government is implementing structural reforms to regain macroeconomic stability and a sustainable growth path, including cost-reflective utility pricing, revenue-enhancing measures, trade, investment, state-owned enterprise, and social protection reforms. Key legislation is being enacted on monetary policy, debt, and public financial management. To help the government's reform program, the IMF authorized a 48-month Extended Fund Facility in March 2023 for almost $3 billion. This was followed by financial support from development partners, notably the World Bank. Debt restructuring discussions with external creditors are still ongoing. The Parliament approved a domestic debt restructuring strategy in July 2023, which excluded financial sector-held government securities issued under domestic law. However, the country is well-positioned to leverage its strategic location, skilled workforce, and vibrant culture to seize opportunities on the global stage.

The "Sri Lanka Development Update" paints a positive outlook for the nation's future. With a commitment to sustainable development, innovation, and inclusive policies, Sri Lanka is poised to realize its potential as an emerging economic hub in South Asia.

In conclusion, Sri Lanka's development story is one of resilience and ambition. By addressing challenges head-on and capitalizing on its strengths, the country is going on a path toward greater prosperity and well-being for its people. As Sri Lanka continues to evolve, the world watches with anticipation, eager to see the island fulfill its promise as a vibrant and dynamic economic player in the region.

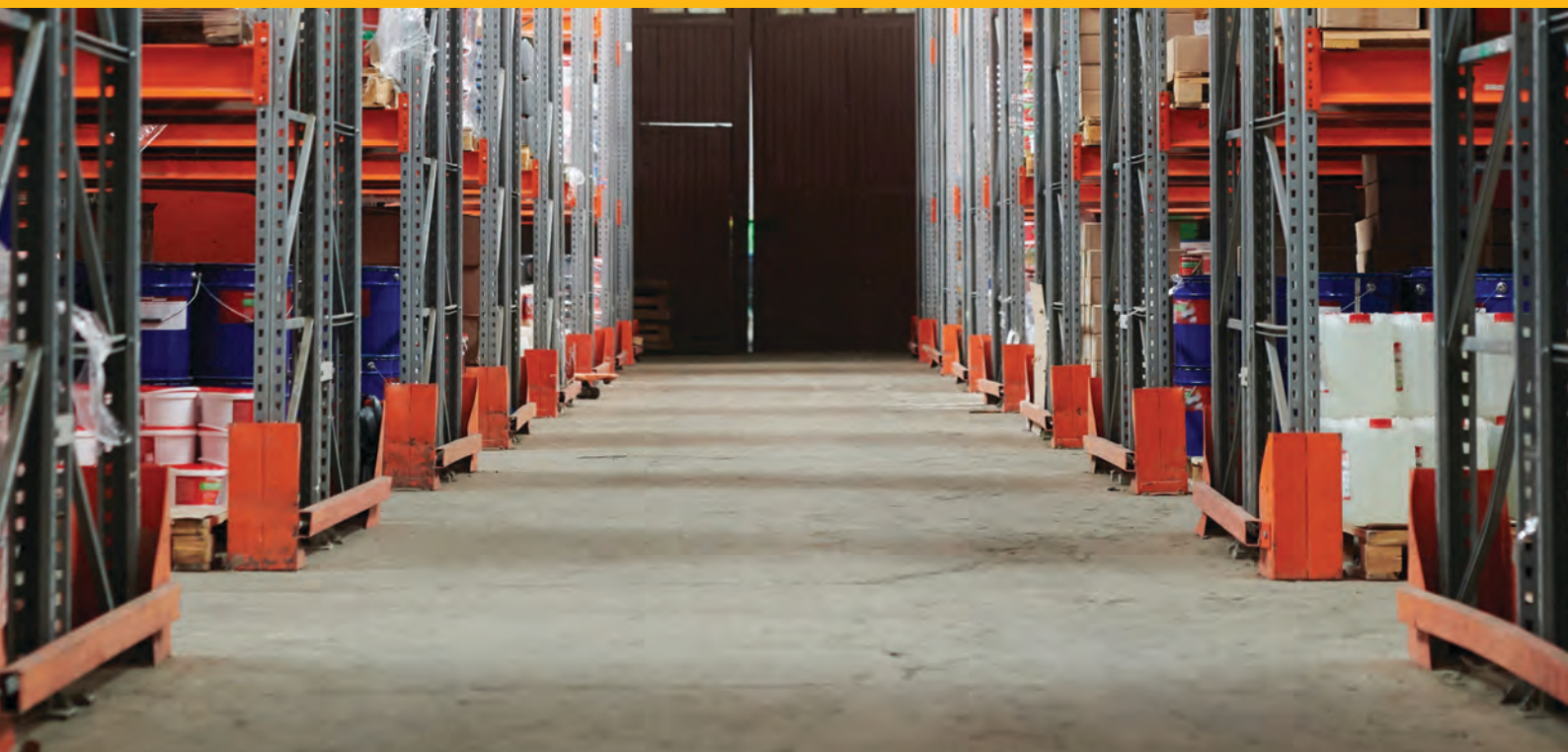**J.A. CHAMOD JAYASOORIYA**
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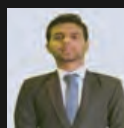
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DIGITAL TRANSFORMATION
IN SUPPLY CHAIN MANAGEMENT

Technology now plays a crucial role in both our personal and professional lives. It has greatly facilitated our daily life. Digital transformation is about incorporating digital technologies into every aspect of business. Because of these businesses can now reach customers all around the world with websites and online stores. Robots and machines also help make things quickly and accurately.

Supply chain management is all about planning and organizing everything so that the right things are in the right place at the right time. The supply chain provides many benefits but at the same time has numerous costs associated with it. Furthermore, it promotes innovation and collaboration through technology integration.

Product development and production work together to guarantee effective manufacturing. Storage and warehousing make use of modern technologies to maximize inventory control. Demand forecasting helps with production scheduling and keeping appropriate stock levels by projecting future product requirements. Distribution and transportation oversee the flow of goods, choosing routes according to factors such as product kind, cost, and speed. Supply Chain Management (SCM) also includes supplier relationship management, risk assessment and mitigation. Information flow management is facilitated by technology such as Enterprise Resource Planning (ERP) systems.

Digital transformation has enabled businesses to achieve more with fewer resources. Automation and analytics contribute to better decision-making, reducing wastage and ensuring optimal resource utilization. This shift towards cost-effective operations has been a game-changer for many small and medium-sized enterprises, providing them with a competitive edge. Further, it has also enhanced customer experience through real-time access to products.

Blockchain has been adding some new sense to this field. It creates a decentralized ledger and ensures that every transaction, from manufacturing to delivery, is recorded and verified. By doing this, the chance of fraud is reduced and trust among shareholders is increased. Nowadays more than ever, consumers want to know where their products come from and how they got there. Blockchain technology satisfies this need by creating an unchangeable record of the supply chain process.

Supply chain management is evolving from traditional logistics into a highly efficient and technologically advanced ecosystem through the integration of automation and robotics. This has made inventory management more organized and efficient. In addition to increasing operational effectiveness, these technologies help save costs, increase safety, and enable businesses to keep up with the ever-increasing demands of a competitive market.

Sri Lanka has seen an important transition in its SCM towards digitization in recent years. The way businesses function has seen several advances and adjustments as a result of this shift. For a country like Sri Lanka, where businesses are often spread across various locations including remote areas, digital technologies like the Internet of Things(IoT), blockchain and automation have played a crucial role in connecting suppliers, warehouses, and retailers seamlessly. Products may be tracked all the way from the manufacturer to the final customer using blockchain technology and other digital tracking methods. This is especially crucial for sectors that place a high value on authenticity and quality control.

Many Sri Lankan businesses have reduced operating expenses by utilizing digital technologies. Labor expenses can be reduced since automation frequently requires fewer hands to conduct jobs. Companies can further reduce costs by reducing waste and inefficiencies through process optimization. The significance of flexibility in supply networks has been highlighted by the worldwide delays brought about by occurrences like as the COVID-19 pandemic. In order to minimize the effects of the crisis, businesses in Sri Lanka with digital systems showed adaptability by immediately adjusting to new customer demands and locating alternative suppliers and distribution routes.

Several nations are aggressively transforming their supply chain management systems to be digitally native. Modern technologies like blockchain and IoT are improving visibility and optimizing inventory in the United States. When it comes to Industry 4.0, Germany is leading the way with data analytics and smart factories. Leading the world in commerce, China is putting money into blockchain and artificial intelligence to link producers and consumers through virtual ecosystems. Singapore is using technology at its ports, and Japan is integrating IoT and Radio Frequency Identification (RFID) to manage goods. India uses mobile technology to increase visibility, while the UK is navigating post-Brexit problems with digital solutions. Brazil uses satellite tracking and IoT to handle intricate supply networks. These international endeavors require cooperative endeavors to establish robust, effective, and transparent supply chains within a more digital environment.

The digital transition in supply chain management has revolutionized the way businesses operate, bringing unprecedented levels of transparency, efficiency, and adaptability. Businesses may more accurately predict demand, reduce risk, and streamline operations by incorporating cutting-edge technologies like automation, real-time tracking, and predictive analytics. This shift to digital also improves consumer experiences, lowers costs, and promotes international cooperation in addition to streamlining operations. Adopting digital supply chain management innovations is not only advantageous but also necessary for businesses seeking growth, resilience, and sustainability in a market that is changing quickly.

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AI AND OTHER TECHNOLOGIES
IMPACT OF SPACE ECONOMY

The commercial space sector has entered a new age thanks to recent developments in space exploration and utilization, which are being supported by investments from well-known business people like Elon Musk and Jeff Bezos.

The nature of work in the space economy is fast changing thanks to developing technologies like artificial intelligence (AI). AI is increasingly being used to automate many tasks in the space industry, from production and launch to operations and maintenance. As an outcome, the number of available vocations and the skills and knowledge needed are evolving.

In the decades to come, AI will become increasingly important in the space industry. For instance, building and launching satellites or creating and manufacturing components in space may be done by AI-capable robots. AI may be used to establish new space-based businesses for space manufacturing or space travel.

As it is currently a young science, space economics is expanding quickly. The space industry has become an increasingly important part of the global economy, and space economics helps in understanding how space activities can impact the economy.

A combination of knowledge coming from economics, business, engineering, and different fields, space economics is a difficult and multidisciplinary area. As new applications and technologies are created, this field is always growing.

Discovering the future of the space sector and how it will impact the global economy involves a solid understanding of space economics.

Space Economical Activities

Current Situation:

AI-powered satellite imagery analysis is currently used to track and manage Earth's resources, including those related to agriculture, forestry, and water resources.

Powered by AI weather forecasting: Using powered by AI weather forecasting, forecasts are now more accurate and timelier. Making smarter decisions concerning transportation, agriculture, and other economic operations is possible with this knowledge.

AI-powered disaster response: This technology is being utilized to boost the speed and efficacy of disaster response operations. AI may be used, for instance, to identify and follow victims of disasters, to evaluate damage, and to plan relief activities.

Powered by AI marine navigation is being utilized to increase the effectiveness and security of maritime traffic. AI may be used, for instance, to improve shipping routes and prevent dangers.

AI-powered space mining: To recover valuable materials from asteroids and other celestial bodies, AI-powered space mining is currently being developed.

The Future:

AI-powered space manufacturing: Products that would be too expensive or challenging to develop on Earth might potentially be manufactured in space using AI-powered space manufacturing. AI may be used, for instance, to produce medicines and electrical parts in space.

AI-powered space travel: AI-powered travel to space might help make it more inexpensive and available to a wider range of people. AI, for instance, may be used to create new spaceships that are safer and more effective.

AI-powered space exploration: New areas of space might be explored and discoveries made using AI-powered space exploration. AI might be utilized, for instance, to create new autonomous spacecraft that can explore remote and dangerous regions.

AI-powered space-based internet: AI-powered space-based internet has the potential to provide everyone in the globe access to high-speed internet. AI-powered space-based energy: Solar energy might be produced and sent to Earth using AI-powered space-based energy.

Examples Of How AI Is Being Utilized In Indian Space Missions Include The Following:

Chandrayaan-2: The Vikram lander's landing on the Moon was planned using AI analysis of satellite photos of the Moon.

Gaganyaan: The project, which is the first human spaceflight mission from India, will make use of artificial intelligence to keep tabs on the astronauts' health and safety, manage the spaceship, and evaluate scientific data.

Aditya-L1: The Aditya-L1 mission is an artificial intelligence-powered solar observatory that will investigate the Sun and how it affects Earth.

Future Indian space missions are anticipated to rely even more on AI. New space-based applications, new sorts of scientific study, and new spacecraft might all be developed using AI.

Some Few Examples Implementation Of Ai The In Private Space Missions Include:

The International Space Station (ISS) and other spacecraft can be docked with autonomous spacecraft that SpaceX is developing with AI. AI is also being used by SpaceX to design and develop rockets and spacecraft that are more dependable and efficient.

To develop autonomous spacecraft that can land on the Moon and other planets, Blue Origin is utilizing artificial intelligence. In addition, Blue Origin is employing AI to design and build a reusable rocket capable of vertical takeoff and landing.

In order to develop autonomous spacecraft that can transport people into suborbital space, Virgin Galactic is utilizing AI. In addition, Virgin Galactic is utilizing AI in the design and construction of a new spaceport for spacecraft launches.

Some of the Specific ESA Space Missions that use AI:

AI is being implemented by the BepiColombo mission to Mercury to improve the accuracy of its navigation system.

Solar Orbiter: The AI-powered Solar Orbiter mission to the Sun uses solar properties like sunspots to automatically detect and track them.

Gaia: To handle its large image dataset for the Gaia mission to survey the Milky Way galaxy, AI is being used.

Euclid: To evaluate its data and find new cosmic objects, the Euclid mission, which studies dark energy and dark matter, will employ artificial intelligence.

Juice: To traverse the Jovian system on its own, the Juice mission to Jupiter and its moons will deploy artificial intelligence.

AI In Space Suits

Environmental monitoring

Artificial intelligence (AI) can supervise the astronaut's environment and send out alerts if the pressure, temperature, or oxygen constant source.

Management of the life support system

Artificial intelligence (AI) can monitor and control an astronaut's life support system to help ensure that it keeps working perfectly and that the astronaut has access to enough food, water, and oxygen.

Health monitoring

AI can be used to monitor the astronaut's health and provide early warning of any potential problems. This may mean monitoring vital signs, identifying illness symptoms, or identifying muscle fatigue.

Assistance with tasks

AI can help astronauts with tasks like communication, navigation, and maintenance. This can entail giving commands in real-time, using tools, or managing robotic equipment.

Decision support

AI has the potential to assist astronauts in making decisions in difficult times. This could involve risk assessment, data analysis, and action recommendations.

Specific examples of how AI is being used in space suits today:

01.   NASA's Z-2 Space Suit
02.   SpaceX's Crew Dragon Spacesuit
03.   Russian Orlan Spacesuit
04.   DLR's Smart Suit
05.   MIT's BioSuit
06.   NASA's Robonaut 2
07.   ESA's Justin
08.   NASA's Valkyrie
09.   SpaceX's Optimus
10.   Boston Dynamics' Atlas

Assistance with tasks Examples from the past ten years and the future of AI decision-making in space missions include:

Last 10 years:

- NASA's Curiosity rover employs artificial intelligence (AI) to travel the Martian surface, choose objects for investigation, and make decisions about what information to collect by itself.

- The NASA spacecraft OSIRIS-REx employs artificial intelligence (AI) to determine the optimal landing location by itself. the asteroid Bennu and to collect samples

- NASA's Innovation Mars helicopter: Ingenuity employs AI to organize and carry out self-sufficient flights on the planet.

- The AI technology employed by Rosetta helped the Philae lander on ESA's Rosetta comet mission land safely on comet 67P/Churyumov-Gerasimenko.

- SpaceX's Falcon 9 rocket: The rocket uses artificial intelligence (AI) to land on a barge at sea on its own.

Future:

- The Artemis program of NASA seeks to send people back to the Moon and someday to Mars. AI will be a key component of Artemis, helping astronauts with activities such as navigation, communication, and decision-supporting.

- NASA's Dragonfly mission is slated to investigate Titan, Saturn's biggest moon. Dragonfly will utilize artificial intelligence (AI) to negotiate Titan's complicated atmosphere on its own and choose targets for research.

- NASA's proposed Europa Clipper mission will investigate the moon Europa of Jupiter. Europa Clipper will employ AI to choose targets for investigation and to autonomously explore Europa's ice surface.

- The Starship spaceship is being developed by SpaceX to transport passengers and cargo as far as Mars as well as beyond. The AI aboard the starship will allow it to land on other worlds, travel the universe on its own, and carry out other crucial functions.

- AI-powered rovers and landers will be able to explore risky, inaccessible areas of space that are currently beyond human reach. These rovers and landers will be powered by AI to make decisions independently and adjust to unexpected changes in the environment.

Examples of AI in the previous ten years And the future using Space Control Systems:

Last ten years:

- Curiosity, a NASA rover, uses AI to investigate the Martian surface, choose targets for investigation, and make independent decisions about what data to gather.

- The OSIRIS-REx mission from NASA utilizes artificial intelligence to find the ideal landing spot on the asteroid Bennu and to conduct an autonomous sample collection.

- The Ingenuity Mars Helicopter from NASA utilizes artificial intelligence to plan and carry out autonomous missions on Mars.

- Rosetta, an ESA project, employed artificial intelligence to direct the Philae lander to a secure touchdown on comet 67P/Churyumov-Gerasimenko.

- The Falcon 9 rocket from SpaceX utilizes AI to make an automated seaside barge landing.

- The Perseverance rover from NASA uses artificial intelligence to explore the Martian surface, choose targets for investigation, and make independent decisions about what data to collect.

- The James Webb Space Telescope, operated by NASA, uses artificial intelligence (AI) to guide and focus its mirrors, choose objects for study, and interpret the enormous amounts of data that it collects.

- BepiColombo, an ESA mission to Mercury, uses artificial intelligence to organize and carry out complex flybys of the planet.

- NASA's Lucy mission to the Trojan asteroids uses artificial intelligence (AI) to navigate to the asteroids and organize and carry out complex flybys of them.

- NASA's Psyche mission to the metal asteroid Psyche uses artificial intelligence to get to the object and to organize and carry out challenging flybys of it.

- NASA's Parker Solar Probe: To find the Sun and defend itself from the intense heat and radiation, the Parker Solar Probe utilizes artificial intelligence.

- Deep Space Gateway, a NASA project, is a projected space station that will revolve around the Moon. AI will be crucial to the Deep Space Gateway, helping humans with tasks like navigation, communication, and decision-making.

Future:

- The Artemis program of NASA aims to send people to return to the Moon and eventually to Mars. AI will be a key component of Artemis, helping astronauts with activities such as navigation, communication, and decision-supporting.

- NASA's Dragonfly mission is planned to investigate Titan, Saturn's biggest moon. Dragonfly will utilize artificial intelligence (AI) to get through Titan's complicated atmosphere on its own and choose targets for research.

- NASA's proposed Europa Clipper mission will investigate the moon Europa of Jupiter. Europa Clipper will employ AI to choose targets for investigation and to autonomously explore Europa's ice surface.

- The Starship spaceship is being built by SpaceX to transport passengers and cargo as far as Mars and beyond. The AI aboard the starship will allow it to land on other worlds, travel the universe on its own, and carry out other crucial functions.

- AI-powered rovers and landers will be able to explore hazardous, inaccessible areas of space that are currently beyond human reach. These rovers and landers will be powered by AI to make decisions independently and adjust to unexpected changes in the environment.

- Telescopes and other equipment with AI power: These devices will be able to collect and analyze data from space in new and innovative methods. These instruments will be able to identify and investigate items that would be missed by standard methods thanks to AI.

- AI-powered decision support systems will be able to assist mission controllers in making more accurate decisions in real-time. Massive amounts of data from sensors and spacecraft will be analyzed by these systems in order to spot possible issues and offer solutions.

- Future completely autonomous space missions may be made possible by artificial intelligence (AI). Without human assistance, these operations would be able to plan, execute, and monitor themselves.

Examples Of AI Leveraging Supply Chains And Space Colonies

- Supply chain optimization for space colonies using AI: AI can be used to make sure that the proper supplies and resources are available anytime they are needed. AI can be used, for example, to forecast the demand for food and other products and to create effective systems for transportation and storage.

- AI-powered manufacturing: In space colonies, AI can be utilized to produce a variety of goods, including food, medicine, building supplies, and spare components. AI may be used, for example, to supervise automated manufacturing systems such as 3D printers.

- AI-powered construction: Space colonies, including their homes, life support systems, and other infrastructure, could be developed and constructed by AI. AI can be utilized, for example, to develop new building materials and techniques that are best suited for the conditions of space.

- AI might be used to collect resources from asteroids and other heavenly bodies, giving space settlements the essential supplies, they need to survive. AI may be used, for example, to discover and mine asteroids that have important resources like metals, minerals, and water.

- AI-powered space exploration: Robotic spacecraft that can explore the solar system and beyond may be built and operated using AI. AI may be utilized, for example, to guide spacecraft that are looking for new planets and moons or mining asteroids.

- AI-driven food production: In space colonies, AI can be utilized to design and manage automated food production systems. The crops that could be produced by these systems include grains, fruits, and vegetables.

- AI-driven water recycling: In space colonies, AI could be utilized to design and run water recycling systems. Wastewater would be recycled by these technologies and made accessible for reuse.

- AI-powered energy production: In space colonies, AI can be utilized to design and run renewable energy production systems. AI might be used, for instance, to manage solar and wind energy systems.

- AI can be utilized to develop and run medical diagnostic and treatment systems in space colonies. AI-powered medical diagnosis and therapy. This technology could make it possible for astronauts to obtain top-notch medical treatment even while they are far from Earth.

- Education and training with AI: AI can be used to create and provide training and educational materials to astronauts in space colonies. These programs might assist astronauts in picking up fresh skills and knowledge as well as staying current with emerging technologies.

Today, artificial intelligence (AI) is being decided to apply in space exploration in a variety of ways, such as task automation, increased productivity, and cost savings. Additionally, AI is being employed to develop innovative products and services that will help people both on Earth and in space.

The way we explore and use space can be changed completely by the application of AI. AI could make it easier for humans to explore the solar system and beyond, mine asteroids for resources, and establish long-term space colonies.

help with a task Examples It's important to keep in mind that using AI for space exploration entails some hazards. For instance, if AI systems are not correctly developed and deployed, they may make errors or even entirely fail. Accidents or other problems could risk astronaut safety as well as the success of space missions.

It is important to carefully consider the potential advantages and disadvantages of employing AI in space exploration before implementing AI systems there. However, AI offers a lot of potential benefits and may play a significant role in future space exploration.
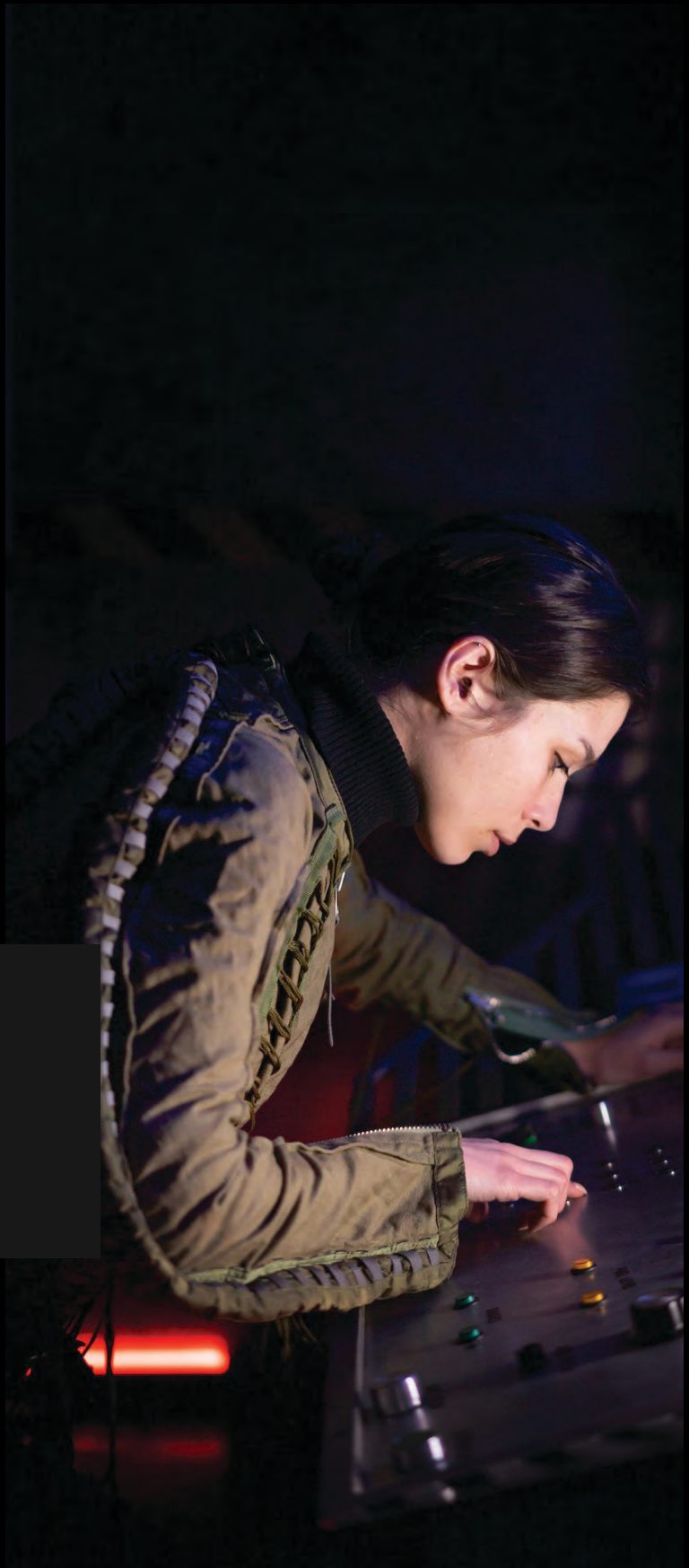
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# "Navigating Economic Waters: The Central Bank's Role in Sri Lanka's Inflation and Growth"

Sri Lanka's economic landscape is indeed an exciting mix of challenges and triumphs, and a delicate balance must be maintained between monetary policy, inflation control and economic growth. The Reserve Bank of Sri Lanka plays a key role in shaping this story through the implementation of its monetary policy. This policy involves a number of methods that affect the money supply and interest rates and thus have a profound effect on the general economic situation of the country. In Sri Lanka, the central bank has two objectives: to ensure price stability, effectively manage inflation and promote sustainable long-term economic growth. For a country characterized by unique economic challenges and achievements, the complex interplay of these factors determines Sri Lanka's economic development and makes it a fascinating subject for research and analysis.

In Sri Lanka, the central bank plays a key role in shaping the economic landscape of the country and has a number of powerful tools to manage the money supply, interest rates and the general economic situation. Among these instruments, open market operations are important. These include the strategic buying and selling of government securities, which give the central bank the means to adjust the money supply, which is crucial to maintaining financial stability. In addition, the central bank uses the discount rate, a powerful tool in its toolbox, to influence the interest rates at which commercial banks can secure funds. Such precise management of interest rates serves as a cornerstone in shaping the credit and lending of the country and affects both businesses and consumers. Essentially, Sri Lanka's monetary policy represents the multifaceted approach that the central bank uses to shape the economy. By strategically manipulating the money supply and interest rates, the central bank aims to achieve several important goals. These include achieving price stability by effectively controlling inflation and promoting long-term economic growth. This complex dance of monetary policy instruments and objectives reflects the central bank's central role in maintaining economic balance and promoting Sri Lanka's prosperous future.

Indeed, inflation in Sri Lanka has shown considerable volatility over the years, highlighting the delicate balance that monetary policy must maintain. The Central Bank of Sri Lanka usually targets an ideal inflation rate for a given region in order to maintain economic stability and stimulate economic growth. This range, known as the inflation target, is central to Sri Lanka's monetary policy. Inflation, characterized by a general increase in the average price level of goods and services, has been a constant challenge in Sri Lanka. High inflation has far-reaching consequences that include reduced consumer purchasing power, increased production costs, and broader economic instability. Accordingly, the main objective of Sri Lanka's monetary policy is to effectively control and manage inflation, mitigate its harmful effects and promote a more stable and prosperous economic environment. The following chart shows inflation fluctuations in Sri Lanka over the last nine years. (source: Department of Census and Statistics)
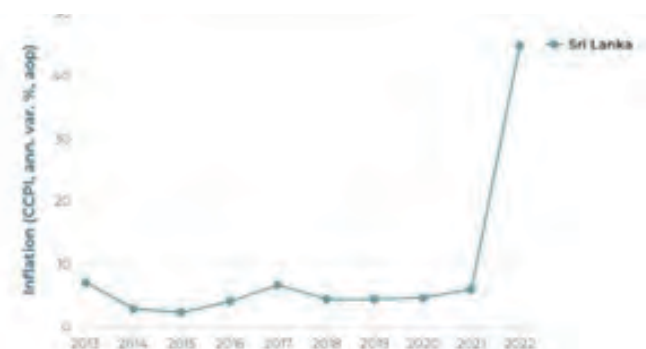
However, this does not mean the elimination of inflation, nor does it mean zero inflation. In some cases, some inflation, although low and stable, may be necessary to ensure economic stability. A classic example is Japan.

In Japan's case, a sustained period of deflation (falling prices) has created economic challenges, including reduced consumer spending and business investment. The Bank of Japan has implemented policies to combat deflation and maintain low positive inflation to stimulate economic activity. This approach suggests that in certain situations, a certain level of inflation, usually low, may be necessary to ensure economic well-being.

Understanding the complex relationship between inflation and economic growth is of utmost importance, especially in the context of Sri Lanka's developing economy. It is clear that controlling inflation is not only a priority but also a necessity to promote long-term economic growth. High and unpredictable inflation can discourage investment, reduce real incomes and undermine economic stability, while low and stable inflation creates a platform for a favorable environment for investment and economic growth.

Central bank policy, especially interest rate policy, has a significant impact on economic growth. Low central bank interest rates can encourage borrowing and investment, which stimulates economic activity. However, striking the right balance is crucial, as long periods of excessively low interest rates can lead to excessive leverage, financial market instability and inflationary pressures.

However, it is important to understand that monetary policy does not work in isolation. Sri Lanka's economic development is influenced by many external factors, such as global economic conditions, international trade dynamics and geopolitical events. These external forces present challenges for the central bank to address while maintaining its dual mandate of promoting price stability and sustainable economic growth. In this dynamic and interconnected global landscape, the central bank's role in guiding the country's economy becomes even more important.

The effectiveness of monetary policy in Sri Lanka, as in any country, is indeed a multifaceted endeavor with unique challenges. These challenges include both the global economic situation and some domestic factors that together affect the economic development of the country. External factors such as global economic conditions, political instability and structural problems in the domestic economy have significantly affected Sri Lanka. The political instability of the past decade, the severe economic downturn caused by the COVID-19 pandemic and the tragic Easter terror attack have all disrupted the country's economic landscape, causing a loss of both domestic and foreign investment. In light of these factors, the potential of monetary policy to accelerate economic growth is limited, underscoring the critical need for additional fiscal strategies, structural improvements and political stability.

Monetary policy, as with any economy, plays a key role in controlling inflation and promoting economic growth in Sri Lanka. Finding a harmonious balance between these goals is of utmost importance to achieve sustainability. The Central Bank of Sri Lanka is grappling with the ongoing task of skillfully managing these economic developments while striving to promote economic stability and growth.

In conclusion, the role of monetary policy in the economic life of Sri Lanka is complex and vital. This requires a careful balance of inflation control and economic growth promotion. The diligent effort of the central bank in the administration of this economic dynamite remains at the heart of the prosperity of the country. Furthermore, synergy between monetary policy and other fiscal and structural reforms is essential for the sustainability and continued stability of the Sri Lankan economy. In the face of many internal and external challenges, the central bank remains steadfast in its mission to ensure the economic well-being of Sri Lanka.
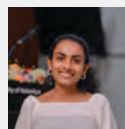
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UNDERSTANDING SRI LANKA'S ECONOMIC CRISIS:

IMF INVOLVEMENT AND THE ROAD AHEAD

Introduction

Sri Lanka is grappling with a severe economic crisis, years in the making, that reached a critical point in early 2022. This crisis is the culmination of years of fiscal mismanagement, corruption, and poor governance. The country defaulted on its debts, depleted its foreign reserves, and found itself in a governance crisis. This article aims to dissect the crisis, explore its root causes, discuss the IMF's recent involvement, and assess progress under its new 'Extended Fund Facility' (EFF) programme briefly.

The Genesis and Root Causes of the Crisis

The economic challenges facing Sri Lanka are not a sudden phenomenon but rather the result of prolonged fiscal mismanagement, rampant corruption, and poor financial discipline. Several key events, such as the constitutional coup in 2018, the Easter attacks in 2019, and the COVID-19 pandemic, have exacerbated the situation. The crisis reached an alarming level in early 2022 when Sri Lanka defaulted on its external debt service payments and struggled to maintain essential imports, like medicines and fuel, due to a severe shortage of foreign reserves. The default led to a drop in Sri Lanka's credit rating from 'C' in April 2022 to 'RD' as of May 2022. By mid-2022, widespread public protests and demands for systemic reforms emerged.

Sri Lanka's economic downfall primarily stems from the mismanagement of its public funds. When compared to similar nations, Sri Lanka has both the lowest revenue and expenditure as percentages of its GDP. Factors contributing to lower revenue collection include the non-collection of taxes such as the betting and gaming levy (casino entrance levy) and mansion tax . Furthermore, the influence of vested interests and inconsistent tax policies (such as slashing VAT from 15% in 2019 to 8% in 2020) are also contributory factors.

Poor governance and corruption are closely tied to the economic problems. A lack of accountability and transparency has led to a decline in public trust, exacerbated by high levels of financial secrecy and corruption.

According to the Governance indicators by the World Bank, Sri Lanka is among the highly vulnerable poor governance segment of countries. Further as of the Control of Corruption index (CoC) Sri Lanka is ranked as 128th among 214 countries, being in the 60% percentile (Figure 1).

The 'Mansion Tax' was initially put forth in the Interim Budget of 2015. Subsequent tax amendments came with the 2016 Budget, leading to revisions of the tax. Eventually, the tax was eliminated in 2018 through Finance Act No. 35 of 2018c. Between the years 2015 and 2018, no revenue data related to the Mansion Tax has been recorded.

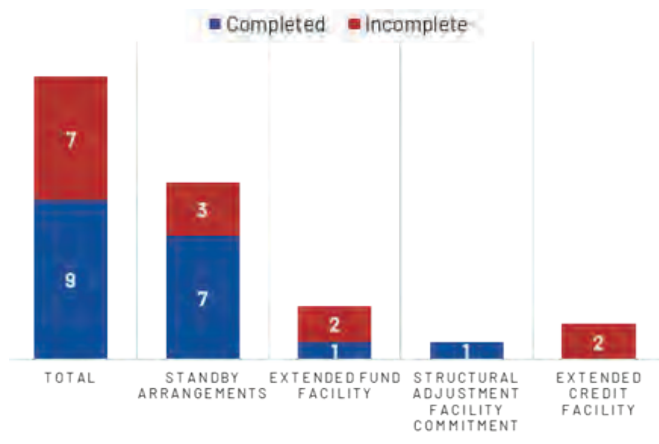### Figure 1: Control of Corruption, 2000-2022
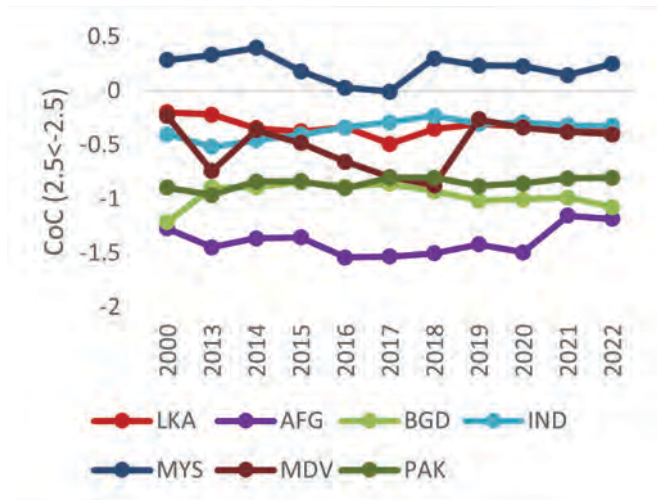
Source: Governance Indicators, World Bank
Note: LKA- Sri Lanka; AFG- Afghanistan; BGD- Bangladesh, IND- India; MYS- Malaysia; MDV- Maldives; PAK- Pakistan

IMF's Involvement and Progress So Far

Sri Lanka's relationship with the IMF is longstanding; the country entered its 17th IMF programme in early 2023 after failing to complete seven of the previous sixteen (Figure 2). The IMF approved a new Extended Fund Facility (EFF) in March 2023, allocating USD 2.9 billion over 48 months. This programme sets out 100 specific commitments that the Sri Lankan government must meet, categorised into prior actions (09) structural benchmarks (49), quantitative performance criterion (QPCs) (22), and indicative targets (20).

### Figure 2: Sri Lanka's Progress in IMF's Programmes (No. of Programmes)

Source: IMF Tracker Verité Research; IMF: https://www.imf.org/external/np/fin/tad/extarr2.aspx?memberKey1=895&date1key=2018-09-30

As for progress, Verité Research's IMF Tracker indicates that as of September 30, 2023, 40 percent of the commitments have been met. Despite these early signs of stabilisation, full economic recovery is not yet assured. Inflation has dropped from a peak of 67.4 percent in September 2022 to 1.3% in September 2023, and gross international reserves increased by USD 1.5 billion between March and June. However, Sri Lanka's external position has weakened due to prolonged debt restructuring discussions, and reserve accumulation has slowed in recent months.

Transparency is an essential element that can significantly impact a country's economic stability. A transparent government can build trust among international stakeholders and the public, which is crucial for the successful implementation of economic reforms. However, transparency towards the public appears to be consistently undermined by the Sri Lankan government. Although the economy shows tentative signs of stabilisation, Verité Research has identified a 'twin transparency deficit' in the IMF Programme. This means that (i) the government is reluctant to improve the transparency of the progress, of ongoing IMF programme, and (ii) the commitments related to enhancing transparency, accountability, and governance have been largely ignored, during the first six months. Out of the 71 percent of commitments that should have been completed by September 2023, approximately 21 percent remain unknown to the general public.
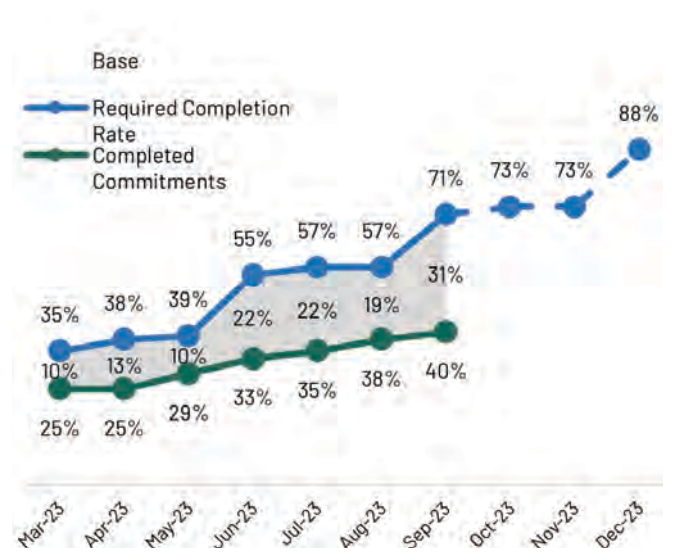
Figure 3: Sri Lanka's Performance on IMF Commitments since March 2023
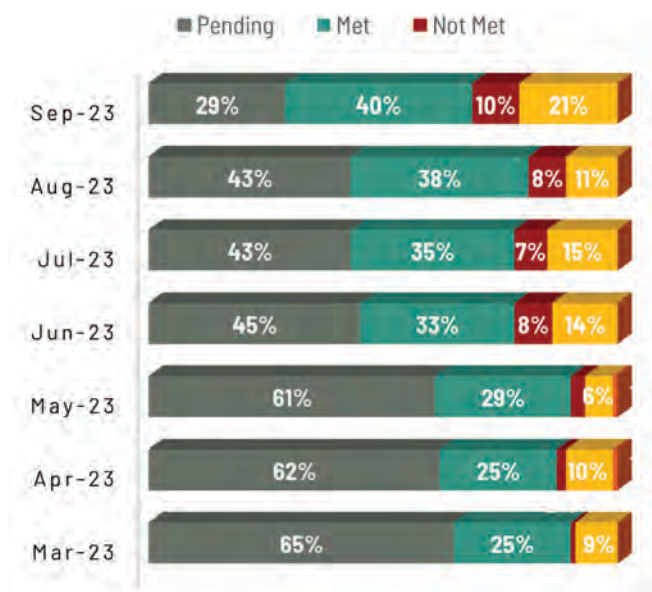
Note: The term "Unknown" refers to commitments that lack publicly verifiable information, making it challenging to assess their completion accurately | Met refers to commitments that are verifiably completed

Source: IMF Tracker Verité Research; IMF and Sri Lanka "Request for An Extended Arrangement Under the Extended Fund Facility—press Release; Staff Report; And Statement by The Executive Director For Sri Lanka"

Figure 4: Sri Lanka's Actual Progress vs Expected Progress on the IMF Programme

Note: The term "Unknown" refers to commitments that lack publicly verifiable information, making it challenging to assess their completion accurately | Met refers to commitments that are verifiably completed

Source: IMF Tracker Verité Research; IMF and Sri Lanka "Request for An Extended Arrangement Under the Extended Fund Facility—press release; Staff Report; And Statement By The Executive Director For Sri Lanka"

Governance and Transparency

Transparency and governance are not optional; they are central to the success of the IMF programme. Sri Lanka is the first country in Asia to undergo an 'IMF Governance Diagnostic Assessment'. The exercise led to 16 priority recommendation This indicates that addressing governance issues is not just a moral imperative but a practical necessity for Sri Lanka to navigate its way out of the current crisis.

While the IMF granted the second tranche worth USD 330 million on October 19, 2023, it signaled that the progress, although commendable, is insufficient.

Critical Areas for Future Focus

It is crucial for Sri Lanka to focus on combating corruption and enhancing governance, mobilising revenue, and progressing in foreign debt restructuring. Enhanced governance and comprehensive tax reforms are not just ethical imperatives but economic necessities. Improved governance can streamline bureaucratic processes, making it easier to implement policies effectively and enacting already passed and active policies are much needed changes for Sri Lanka.

Further checks on commitments are necessary for Sri Lanka to achieve long-term economic stability but apart from just completing this EFF programme, government should focus on creating a plan to increase production of the economy, encourage Small and Medium Scale Enterprises (SMEs), encourage external trade removing barriers to trade while taking measures to control brain drain.

Careful planning and analysis are essential to prevent backsliding into another crisis.

Conclusion

While Sri Lanka has made some progress under the new IMF programme, significant challenges remain. The government needs to focus on improving revenue mobilisation, enhancing governance, and accelerating foreign debt restructuring. Success in these areas will be crucial for long-term economic stability and will require concerted efforts from all stakeholders.

Disclosure:

The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of any current or former organisations with which the author is affiliated.

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Author's Background

Sureni Weerathunga, a Senior Research Analyst at Verité Research, has a background that includes a stint as a Research Analyst at the International Monetary Fund (IMF) and as a Visiting Lecturer at Sabaragamuwa University in Sri Lanka. She has also been the Independent Budget Expert and Primary Researcher for Sri Lanka's 'Open Budget Survey 2019.
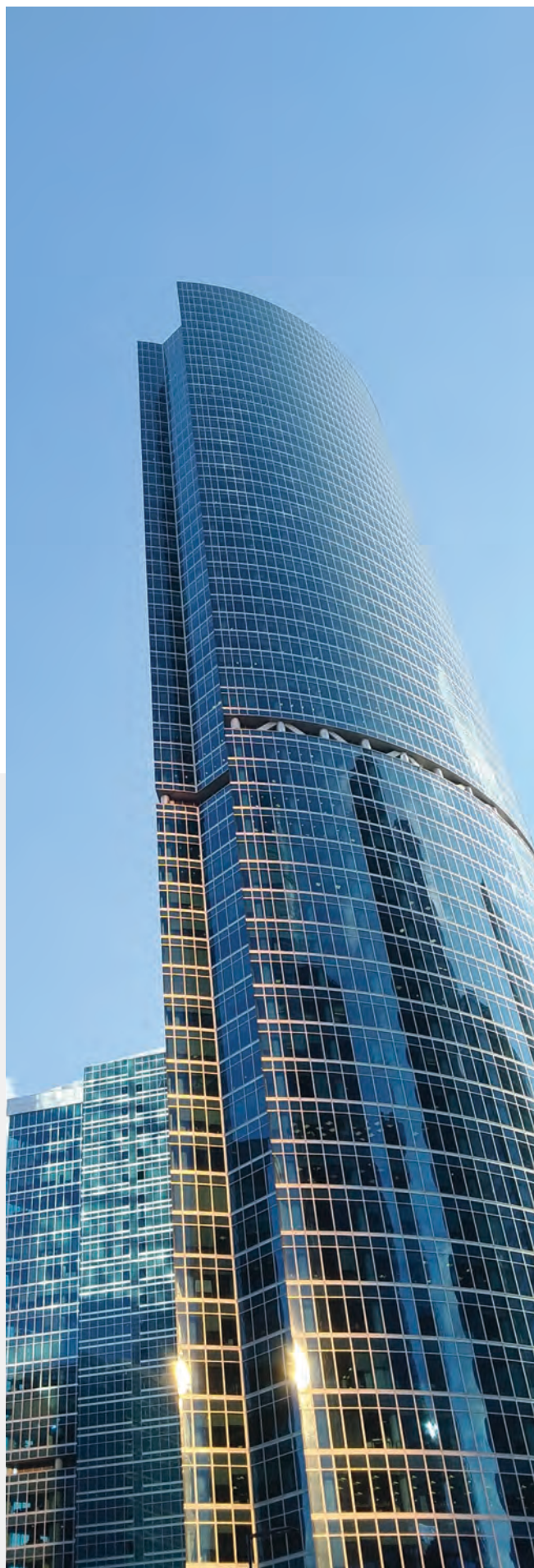
The Transformational Impact of AI and Technology on Business in the Shift to Industry 5.0

The world is in the transition from Industry 4.0 to Industry 5.0. This is due to efficiency in the computer processing power and novel Artificial Intelligence (AI) algorithms. The impact effect for advancement in various sectors and profound impact on businesses across multiple industries. Technology and AI can influence business in several ways, which they can influence and transform businesses into advanced level. Artificial Intelligence is used in Supply Chain Optimization, Decision support systems, Product Development, Market Research, Risk Management, Innovation, etc.

AI can be used to analyze large amounts of data to identify patterns and trends that would be difficult for humans to spot on their own. This allows businesses to extract valuable insights from data, make data-driven decisions, and identify trends, customer preferences, and market opportunities. AI can analyze vast amounts of data from various sources to provide competitive intelligence, helping businesses understand market trends, consumer behaviour, and their com-

petitors' strategies. AI can assist in decision-making by providing data-backed insights and scenario analysis. Business leaders can make more informed and strategic decisions, leading to improved outcomes.

AI can optimize supply chain management by predicting demand, optimizing routes for deliveries, and managing inventory more efficiently, ultimately reducing costs and improving customer satisfaction. Technology and the internet have made it easier for businesses to reach global markets, expanding their customer base and revenue potential. AI can help businesses in ensuring compliance with regulations and managing risks by monitoring and analyzing data to identify potential issues before they escalate.

Technology and AI encourage innovation by enabling experimentation, rapid prototyping, and the development of new business models. AI can accelerate the product development process by simulating and testing designs, automating repetitive design tasks, and predicting customer preferences. This can result in faster time-to-market and innovative product offerings.

AI is used to automate a wide range of tasks, from simple data entry to complex customer service interactions. AI and technology can automate repetitive tasks, reducing the need for human intervention. This can lead to increased operational efficiency, reduced errors, and cost savings. For example, chatbots and robotic process automation (RPA) can handle customer inquiries and data entry tasks. This can free employees to focus on more strategic and creative work, and it can also lead to significant cost savings.

AI is used to personalize the customer experience in several ways, such as by recommending products and services based on past purchases or browsing behaviour. Machine learning algorithms can analyze customer data to provide tailored recommendations and experiences, improving customer satisfaction and loyalty.

Technology and AI can streamline operations, reduce labour costs, and optimize resource utilization. For example, in manufacturing, automation and robotics can lead to significant cost savings. In terms of sustainability, AI and technology can be used to optimize resource consumption, reduce waste, and promote sustainable practices, aligning businesses with growing environmental concerns. In summary, technology and AI are transforming how businesses operate, compete, and interact with their customers and the wider world. Those who successfully harness the power of technology and AI can gain a competitive advantage and drive innovation, efficiency, and growth in their respective industries.

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STRATEGIC TECHNOLOGIES WITH POTENTIAL TO INFLUENCE
FUTURE PAYMENT SERVICES IN SRI LANKA

Introduction

In this era of financial technology (fintech) characterized by emerging technologies, digital payment services play a vital role in the country while enhancing financial inclusion. Rapid technological development in payment systems has turned out to be a keystone in the improvement of the financial sector. It has the power to deliver financial services in an efficient manner, alleviating market failures that arise from traditional payment services. Fintech development and the evolution of payment instruments are the two main elements of forming a cashless society. With the recent rapid evolution of fintech innovations, the Payments and Settlements Department of the Central Bank of Sri Lanka (CBSL) has taken several regulatory decisions to enhance the quality, security, efficiency and accessibility of the financial services in Sri Lanka. The year 2020 was named as the year of digital transactions in the country to promote the use of digital financial services and thereby encourage people to use digital payment methods such as payment cards, mobile phone-based payments, internet banking, mobile banking and LANKAQR code. CBSL is also currently evaluating the likelihood of implementing a shared know your customer (KYC) facility in Sri Lanka. Meanwhile, there are several applicable strategic technologies with the potential to influence future payment systems in Sri Lanka, such as biometric authentication, open banking, blockchain technology, big data analytics and artificial intelligence.

Biometric Authentication

Biometric authentication is an effective form of identification that use biological characteristics of an individual such as fingerprint, finger vein and palm vein patterns, retina or iris, face and voice recognition or a combination of these characteristics. It is a reliable authentication tool that can be implemented in the financial services sector to perform secure transactions with minimum frauds. Financial sectors in several countries have increasingly applied biometric authentication to secure financial information and customer identification (Thales Group, 2022). Aadhaar authentication is a biometric-based authentication process used in India to identify the customer using a 12-digit unique number called Aadhaar number and biometric information stored in the Central Identities Data Repository (CIDR) (Unique Identification Authority of India, 2020).

As a robust alternative to the traditional authentication methods of payment cards, biometric authentication is now gaining momentum in several countries as a highly secure method. Biometric information such as a mathematical representation of fingerprint details is securely stored in the payment card to identify the genuine cardholder thereby preventing identity theft. Meanwhile, biometric eye scanner technology is a more secure method that can be implemented in mobile banking. It will allow the customer to sign into the mobile application by scanning the eye using the camera on the mobile phone. Moreover, fingerprint technology and facial recognition have also been applicable as biometric authentication technologies in mobile banking services. Voice-based biometric authentication is another rapidly growing technology in the financial services sector

and is a most effective method. Additionally, voice-based biometric authentication can be implemented in mobile banking technology as a part of multi-factor authentication (Arthur & Frank, 2019; Dossey, 2018).

Traditional authentication methods, which rely on PIN, user IDs and passwords, are still highly vulnerable for various types of attacks such as brute-force attacks, phishing attacks and cyber-attacks. Since biometric information cannot be guessed or counterfeited, biometric authentication is the best alternative for traditional authentication methods. Furthermore, biometric authentication will enhance the trustworthiness of the payment system, and it can be popularized among customers as a very convenient method.

Open Banking

Open banking is a promising concept of open innovation that facilitates third-party developers to access consumers' financial information in financial institutions with their consent through application programming interfaces (APIs). It is an excellent opportunity for third-party developers to build innovative financial products using consumers' financial data in a secure environment in order to deliver value-added services for the customers. Open banking is evolving in global banking practice in many countries as a unique driving force of financial services. To enhance financial inclusion and promote fintech solutions, CBSL is planning to develop an open banking framework in Sri Lanka (Central Bank of Sri Lanka, 2020). An open banking framework should consider the access level granted to the third-party developers for accessing the customers' data based on read/write access to open APIs . Read access allows third parties only to replicate the customer's data and perform activities without any alteration of the original data set. Meanwhile, write access allows third parties to make modifications for the customers' data on behalf of the customers such as payment initiation, fund movements between accounts and opening/closing accounts. (Deloitte, 2019).

Account aggregation with read access is one of the most common applications in open banking, which connects financial accounts across participating financial institutions. Through this, customers will be able to access all financial data in multiple financial institutions from a single view of transaction history or the account balances (Kearney, 2017). Based on the derived insights and recommendations by third-party developers, customers will have the opportunity to make informed decisions regarding their cash flow management, debt management and personal financial management. This is an extremely useful method for customers to manage their financial position accurately. In addition, if account aggregation is allowed through read/write open APIs, then the financial data alteration services such as account modification and payment initiations. could be handled by third-party developers. However, regulators should make comprehensive rules and regulations on open banking to mitigate the risks associated with sharing and enabling the modification of customers' data by third parties.

Blockchain Technology

Blockchain technology is a global revolutionary technology, which can be integrated into various industries. The financial services sector together with payment services has embraced blockchain technology in order to provide more secure and efficient services. A blockchain represents a chain of blocks that are secured using cryptography principles. A timestamp, which is the cryptographic hash value of the previous block and transaction data, is stored in the blocks with a unique hash value to distinguish one block from another. Meanwhile, the invaluable features of decentralization, transparency, immutability, and security have upgraded the effectiveness of blockchain technology from other technologies (Jung, 2019). Each node replicates a copy of the blockchain, and it does not rely on a central location due to the characteristics of decentralization. Therefore, blockchain applications are highly available and strongly resistant to malicious attacks and system failures. Once the data in each node is processed, it cannot be modified further. This is referred to as the immutability of the blockchain, and it is achieved using cryptographic hashing (Binance_Academy, 2018). Therefore, it is very hard to transform data in blockchain systems and due to this reason, it is one of the best technologies to be applied in financial-related applications. Further, the transparent flow of data enhances trust among all parties of a blockchain. Sri Lanka is exploring the possibility of applying blockchain technology for implementing KYC processes in the financial industries.

Meanwhile, there is also great potential to use blockchain solutions for payment services as an alternative to traditional methods. One such usage is cryptocurrencies. Cryptocurrency is a virtual currency that is created and stored in blockchains to perform secure financial transactions using strong cryptographic protocols. Bitcoin, Ethereum, Ripple, Bitcoin cash, NEM, IOTA, NEO, Dash and Litecoin are some popular cryptocurrencies (Cointelegraph, n.d.). Out of these many cryptocurrencies, Bitcoin has gained some amount of acceptability among certain merchants compared to other cryptocurrencies.

Also, blockchain technology is an appropriate technology for solving the challenges associated with cross-border payments. Since blockchain transactions are cost-effective, transparent and efficient, many global financial institutions and government authorities are interested in implementing cross-border payments using blockchain technology (Khandaker, 2019). Trade finance is

a sector which is highly dependent on paperwork and fax or mail to complete the process between multiple participants. Blockchain is a cost-effective technology for trade finance to enhance efficiency by reducing the processing time for paperwork (Belin, 2018). Therefore, blockchain is a desirable technology for the financial institutions to transform their traditional operations into a more effective, efficient, cost-effective, and secure solution.

Open API also referred to as a public API (Application Programming Interface), which gives programmatic access to a software application or web service for software developers.
https://en.wikipedia.org/wiki/Open_API

Big Data Analytics

Big data analytics involves the techniques of analyzing a high volume of diverse and complex data in order to discover valuable insights which would help organizations to make decisions effectively. The potential of big data analytics for the financial sector has increased exponentially in recent years in several countries (Lochy, 2019). The payment sector has become a data-driven sector managing large volumes of a wide variety of data such as customer transactions, customer details and merchant details. Moreover, significant diversification of data can be observed due to diverse payment channels such as cash, payment cards, mobile phones, digital wallets, and Internet-based payments. Therefore, big data analytics is a key element for financial institutions, payment service providers, fintech companies and governments to make effective data-driven decisions to drive the payment sector forward.

Fraud detection and prevention have been prioritized as a top requirement by many financial institutions because fraudsters are continuously discovering innovative techniques to get around any sophisticated security measures that are initiated. Financial institutions in several countries use big data analytics for payment fraud management to identify fraudulent activities. Graph analytics is a more accurate technique to identify frauds efficiently by eliminating false positives (IFC Bulletin, 2019). Meanwhile, according to Coelho et al. (2014), some global AML/CFT supervisors and Financial Intelligence Units (FIUs) are exploring the methods to use customer-transactional data with non-transactional data such as tax data, custom data and property regis-

tration details for strong analyses to identify money laundering activities. In addition, some of them are attempting to use text analytics techniques with unstructured data from non-traditional sources such as newspaper articles and social media to derive more accurate results. Therefore, through the application of big data analytics, the financial sector will be able to perform more effectively and ensure cost-efficient compliance according to the volatile requirements.

As mentioned by the Irving Fisher Committee on Central Bank Statistics (2019), big data analytic techniques can be applied to interbank payments data in order to identify the flow of funds between various parties for evaluating the systemic risk by the Central Bank. Moreover, big data analytics plays a crucial role in mobile application development to identify hidden insights using large volumes of diverse data sets, ranging from consumer details to transaction details. Amazon, Uber and Starbucks are applying big data analytics using client-centric information to analyze consumer behavior and to align mobile applications to consumer requirements. Grab is a prominent mobile application in Southeast Asia that offers various services, including efficient and affordable transport service, food delivery, mobile payments, and financial services. (Grab (company), n.d.). Even though there are usable mobile applications in Sri Lanka, there is a greater potential to improve these applications to provide more customer convenience similar to the other global mobile applications, such as Grab. Therefore, with the arrival of the big data revolution, the financial sector has a greater opportunity to utilize payment system-related data to provide a high-quality service to the public.

Artificial Intelligence

Artificial Intelligence (AI) is a technology which simulates human intelligence through computer systems to perform tasks such as problem-solving, reasoning, knowledge representation and learning. As a subcategory of AI, machine learning enables systems to learn and improve from existing data without any human intervention while deep learning uses complex algorithms which learn high-level features of data as part of machine learning. According to a report published by CII-Deloitte (2020), the cognitive technologies of AI are natural language processing, natural language generation, machine learning and computer vision. Artificial intelligence has altered several industries such as finance, healthcare, hospitality, cyber security, transport, and logistics. as one of the most popular technologies in the current decade. Moreover, artificial intelligence has led to significant improvements in payment services to provide secure, efficient, and effective services.

Fintech companies apply artificial intelligence to mobile payment applications enabling them to evolve into advanced applications offering efficient digital payment services. Financial institutions in many countries have leveraged the use of AI-driven chatbot applications to provide customized banking experiences for the customers. Bank of America has introduced chatbot-Erica to communicate with customers through a mobile application effectively. Customers can interact with Erica through voice and text messages or on-screen gestures to obtain several useful services such as viewing transaction details, locking and unlocking payment cards, money transferring and navigating the application to get useful information such as closest ATM locations. As a virtual finance assistant, it sends proactive notifications on bill payments, recurring charges, annual subscriptions, and deviations of credit score. Further, based on the insights gained through analyzing consumer habits, Erica informs the users on the future status of bank balances (Bank of America, 2018; Mejia, 2019). AI-driven chatbot could help derive the ideal solutions for financial institutions to assist customers with proactive guidance for offering convenient financial services.

Meanwhile, traditional fraud detection systems have become obsolete and are deficient in detecting real-time frauds. The integration of artificial intelligence for fraud detection systems, would enable the identification of and prevention of fraudulent transactions in real time (NIMBLE APPGENIE, 2020). Moreover, "Card linked marketing" can be performed by financial institutions by doing predictive analysis using customer details such as demographic details and transaction details. Then financial institutions will be able to offer customized promotions for each person with a minimum cost for marketing (Mejia, 2019a). Therefore, the development of artificial intelligence is the driving factor to gain exponential growth in the financial sector. Further, it will be able to provide effective, efficient, and secure payment instruments with proactive customer guidance through the integration of artificial intelligence.

Conclusion

Technological innovation will increasingly accelerate the use of digital payment services in the country. Several significant strategies have been initiated by CBSL to enhance the digital payment services in Sri Lanka. Moreover, biometric authentication, open banking, blockchain technology, big data analytics and artificial intelligence are strategic technologies which have the potential to enhance the payment services in the country. The benefits of the stated technologies are likely to prove attractive to the public because they ensure efficient, effective, and secure payment systems that would make a profound impact in improving the livelihoods of people. Therefore, all stakeholders associated with payment systems in Sri Lanka, should adopt strategically important technologies to enhance the financial inclusion in the country.

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MARKETPLACE DYNAMICS:
AI-POWERED HANDICRAFT PLATFORMS AND ARTISAN EMPOWERMENT

Sri Lanka has a rich tradition of handicrafts, reflecting the country's diverse culture and heritage. The handicraft industry in Sri Lanka offers a wide range of products, from traditional items to modern crafts. Rush and reed related products, batik, handwoven textile, pottery, wood carving, lacquer (Laaksha), brass and copperware are some of the industries involved in traditional crafts. The craft of rush and reed holds a significant position in Sri Lanka's traditional arts and has served as a livelihood for people from ancient times to the present. Today, rush and reed handicrafts are highly sought after due to their appealing finishes and customer preference for innovative designs, making them a thriving market. Additionally, coir-based products have always been an essential part of the lives of the people in our country. Coir, also known as golden fiber, is a completely natural, eco-friendly, and remarkably durable material common in Sri Lanka. It is used to create various items including ropes, strings, brushes, carpets, baskets, and decorative pieces. With the growing demand from foreign tourists, many individuals are now turning to this industry, further boosting its popularity and economic significance. Moreover, Sri Lanka is

renowned for its colorful batik textiles, which are often used in clothing and home decor. Traditional handwoven fabrics like saris and sarongs are popular among locals and tourists alike. Further, traditional pottery, including decorative and functional items, is crafted by skilled artisans. Wood carvings are intricate and detailed, often used in furniture and religious artifacts. Laaksha, recognized as lacquer work, holds a rich heritage in Sri Lanka, tracing its origins to the period when Buddhism was first introduced to the island. According to legend, the skill of Laaksha arrived in Sri Lanka from India, alongside the sacred 'Sri Maha Bodhi' tree sapling. This ancient craft has persisted over generations and centuries, retaining its importance in the present era. Moreover, artisans craft decorative items, utensils, and religious objects from brass and copper. Artisans create products from recycled materials, promoting eco-friendly practices. Further, handmade paper products, including cards and journals, are gaining popularity. Bamboo products, such as baskets and furniture, combine traditional techniques with modern designs. Handicrafts are popular souvenirs for tourists visiting Sri Lanka, driving the demand for traditional and contemporary crafts.

Handicraft shops and markets are prevalent in tourist areas like Colombo, Kandy, Galle, and Dambulla. The most significant fact is Sri Lankan handicrafts are exported to international markets, especially products like batik, handwoven textiles, and wood carvings. The Sri Lankan government and institutions like National Craft Council, National Design Centre and Handicrafts Development Board provides and facilitate training programs and workshops, market linkages to artisans, enhancing their skills and business acumen and Initiatives to promote Sri Lankan handicrafts at international trade fairs and events support market expansion.

Online platforms enable Sri Lankan artisans to reach a global audience, showcasing and selling their products worldwide. Further, social media platforms are used by artisans to promote their crafts and attract customers. Accessing international markets and complying with export regulations can be challenging for small-scale artisans. The intersection of Artificial Intelligence (AI) and traditional handicrafts represents an exciting frontier in the world of business and creativity. AI-powered handicraft platforms have the potential to revolutionize the way artisans create, market, and sell their products while also empowering them in several ways. The integration of AI technologies can lead to increased productivity, improved decision-making processes, and enhanced competitiveness in various sectors such as fintech and logistics. Further, AI technologies can play a crucial role in driving economic growth and social progress in Sri Lankan handicraft sectors.

Introducing a marketplace dynamic centered around AI-powered handicraft platforms and artisan empowerment requires a thoughtful approach by market research and understanding. Here it is required to identify the target audience. That is understand the needs and preferences of both artisans and buyers in the handicraft market and analyze existing platforms to identify gaps and opportunities for differentiation. Then, assess the AI technologies available and their applicability to the handicraft industry. It is also important to develop platforms. This should be done by collaborating with technology experts, partnering with AI and blockchain experts to develop a robust and secure platform and design an intuitive platform accessible to both tech-savvy users and those new to online marketplaces. Then ensure the platform is responsive and functional on various devices, especially smartphones and tablets. Artisan onboarding and empowerment are also very important. This can be done by conducting training and workshops. Offer training programs and workshops to artisans to familiarize them with the platform and AI tools. Provide resources for artisans to enhance their skills, offering online tutorials and courses. It is also very important to conduct awareness sessions on financial literacy and educate artisans about digital transactions, pricing strategies, and financial management.

The intersection of artificial intelligence and traditional handicrafts represents an exciting frontier in the world of business and creativity. AI-powered handicraft platforms have the potential to

revolutionize the way artisans create, market, and sell their products while also empowering them in several ways such as improved efficiency and creativity by automation. AI algorithms can automate repetitive tasks like inventory management, allowing artisans to focus on their craft and AI tools can help artisans in designing products, suggesting creative ideas based on market trends and customer preferences. Supply chain optimization is crucial in handicraft sectors. Thus, predict demand patterns for handicrafts, allowing artisans to optimize their supply chains and reduce wastage. Further, inventory management can be functional using novel technologies by monitoring inventory levels and reordering products automatically, preventing stockouts and overstocking. Furthermore, AI-powered platforms can analyze customer behavior and preferences to create targeted marketing campaigns, reaching the right audience and through such a process it would be easy to enhance the handicraft market and sales. Artificial intelligence can be used in dynamic pricing where it can adjust product prices based on demand, supply, and market trends, maximizing revenue for artisans. New technologies such as online learning techniques can be used to empower Artisan Communities in skill development, financial inclusion, as well as digital divide.

Finally, the handicraft market in Sri Lanka is vibrant and diverse, offering a wide array of traditional and contemporary products. With the right support, including skill development, market access, and promotion, Sri Lankan artisans can continue to thrive both domestically and internationally. AI-powered handicraft platforms hold immense potential to transform the artisan industry by enhancing efficiency, expanding market reach, and empowering artisans globally. However, it is essential to address challenges and ethical considerations to create a sustainable and inclusive ecosystem for artisans and their craft.

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NAVIGATING ECONOMIC CHALLENGES AND ACHIEVING SUCCESS

Insights from Dr. Kishu Gomes,
CEO of Dreamron Group of Companies

Dr.Kishu Gomes

Award Winning Celebrity Corporate Leader.

Dr.Kishu Gomes, Group Managing Director_CEO, Dreamron Group of Companies

Dr. Kishu Gomes is a seasoned business leader with over 30 years of diverse and extensive experience in the corporate world, both locally and on a global scale. He began his remarkable journey at Coca-Cola, where he excelled in various roles, starting in sales and progressing to senior management. His expertise spans a wide range of areas, including sales, marketing, brand management, corporate affairs, brand activation, and sponsorships.

Transitioning from the beverage industry to the energy sector, Dr. Gomes joined Chevron as the National Sales Manager, quickly ascending to the position of General Manager and Head of Marketing. Notably, this role also granted him a seat on the board of a publicly listed entity. His career took a historic turn when he became the youngest Asian to lead a prestigious American multinational organization.

Throughout his illustrious career, Dr. Kishu Gomes achieved remarkable milestones, transforming a local entry into Sri Lanka's most profitable company in terms of Return on Capital Employed (ROCE). He also established the company as the best dividend payer and achieved numerous other significant accolades. His exceptional leadership and strategic acumen solidified the energy industry brand he managed as one of the best-known and most admired in Sri Lanka.

Dr. Gomes has been widely recognized for his outstanding performance, earning the highest number of personal awards from both global and local organizations. His extensive and diverse experience, coupled with his track record of exceptional achievements, make him a prominent figure in the business world. And now, He is the Group Chief Executive Officer and Managing Director of the Dreamron Group of Companies.

When considering the Dreamron Group of Companies, which operates in the cosmetic industry targeting a specific demographic, How it was challenging for the Dreamron group of companies?

It's like this now, globally we see a lifetime transformation, so if you look at the given market, the market that is created today, obviously follows the global economic crisis and the local crisis, you can expect the given market to recede, the given market to decline.

But if you look at the trend, we see more and more people around the world becoming fashion-conscious, becoming more oriented towards presenting themselves more impressively. So here on an annual basis, in line with the changing cultures and lifestyles of the world, we see tremendous growth in the cosmetic market. So within that, if you ask me how the company I provide the leadership to has been able to perform, so obviously like what any other industry had to face, our industry too had to face humongous issues.

Obviously, when the exchange rate crisis or exchange crisis came about, even though cosmetics import a lot of raw materials and packaging materials, due to the scarcity of dollars, we could not meet the market demand.

So that became an issue. And then other than that, with the disposable income of Sri Lankans coming down, the growth momentum that we are experiencing came to a standstill as well. So those two factors put together, there was an issue, no words about it. But if you ask me what's happening in the market today and how the company has performed, we have performed very well. Our recovery has been much better than what we initially thought.

While I still believe that there is a decline in the industry, we have been able to grow our volumes with the strategy we've been basically executing in the market.

If we talk about the company, it's a company that caters to 27 countries in the world as well by way of exports. So we've been able to get back to the original levels we were at prior to the pandemic and the consequent economic decline the world experienced. We've been able to get up to the original levels. Locally, we've been able to surpass the volumes we've been doing during good times.

So all in all, while all that you said in terms of challenges is true, by coming up with acute, more aligned strategies and making some tough decisions in terms of cost management, in terms of promoting the brand, in terms of expanding the distribution coverage, with all that, we've been able to perform very well as a company.

Taking into account the economic challenges Sri Lanka has faced and continues to face, what strategies have been undertaken to ensure the success of the Dreamron Group of Companies' expansion?

So number one is when the market is not green, you need to focus on your costs. How can we as an organization keep reducing the cost? So we're talking about a highly inflationary environment, so it's almost impossible for you to be able to keep reducing costs. But whatever you put in, you have to focus on it. That is what we did. And then obviously with inflation, in order to recover some of the cost increases, we had to increase the prices to the end user. So that way, we managed to maintain the prosperity levels the business requires.

So the other is when a market is declining, the overall industry is declining, We need to analyze competitors' shops. And while the industry has declined, you can still grow your volume, and your brands, if you play your brand strategy right. So we did aggressively, and we are one of the very few companies that kept advertising even during COVID. We had the TV stations, and we kept going the bare minimum. And today it has resulted in increased market share and increased volumes.

The other one is, you know, in a crisis situation, you have to make a judgment call as to what is the key use and product that you want to really keep pushing in order to maximize your margins. So there will always be situations where there are certain SKUs, and certain pack sizes, that may not be giving you the right returns. There may be certain product categories that are not giving you the right returns. So taking a deep dive, looking at it, doing all the analysis and then deciding how you manage your product portfolio to keep the gross margins going is one thing we have done very well.

And when it comes to people, obviously when the market is tighter, it's more competitive, people have to be better than ever before because facing competition in a tough environment is all about people's capabilities. So if people do not have the elevated skills, they are then unable to perform at the same level in a tougher environment.

So you make the environment easier by deploying or developing the people you have. You keep enhancing their knowledge, you keep enhancing their capacity, their competence and their skill levels, and then you can still make your strategy work. With better skills and sharper skills, people will always eat into competitiveness. So these are the examples I can give you to be convinced that strategy is of paramount importance in order to survive in a very difficult market environment.

When discussing the global cosmetic industry, we observe that various companies employ different technologies to boost productivity, efficiency, and product quality. What new technologies have Dreamron Companies adopted to enhance their product quality?

Yeah, so the cosmetic industry is a fast-evolving industry. Technology keeps changing literally every week, every month. So your people have to be doing the right R&D, your people should be keeping their eyes and ears open for new technologies. There are dedicated organizations to work on technology aspects of cosmetics and they innovate some new raw materials, they innovate new technologies. So as and when these things happen, you as a cosmetic company need to quickly embrace those new technologies and transform your product formulations for two reasons. One, to reduce cost and two, while reducing cost to increase the quality of your product. So if you do those two things right, then you are still able to make the right margin. So that's exactly what we have done. So we keep watching what is happening in the global arena. What are some of the new technologies the world has put out and people have embraced, companies have embraced? So you need to be ahead of the curve and make those right changes at the right time so that you can benefit from those technological evolutions. Yeah, so technology is something else and also nowadays most of companies focus on sustainability and ESG investing. So when we

As technology evolves, we increasingly focus on sustainability and ESG (Environmental, Social, and Governance) investing. As a company, the Dreamron Group of Companies likely follows eco-friendly practices and technologies to preserve the environment, protect their employees, and provide high-quality products to their customers. Regarding ESG investing, could you share the strategies you have implemented?

Yeah, so the cosmetic industry is a fast-evolving industry. Technology keeps changing literally every week, every month. As a company, we had to do the right research and development and we always have to keep our eyes and ears open for new technologies. There are dedicated organizations to work on technology aspects of cosmetics and they innovate some new raw materials, they innovate new technologies. So as and when these things happen, we as a cosmetic company need to quickly embrace those new technologies and transform our product formulations. There are two main reasons for this. One, to reduce cost and two, while reducing the cost to increase the quality of your product. So if you do those two things right, then you are still able to make the right margin. So that's exactly what we have done. So we keep watching what is happening in the global arena. What are some of the new technologies the world has put out and people have embraced, companies have embraced? So you need to be ahead of the curve and make those right changes at the right time so that you can benefit from those technological evolutions. Yeah, so in terms of sustainability, there are many things organizations need to keep doing on a daily basis. Sustainability should not be a standalone thing. Sustainability is how you run the business anyway. So, the cosmetic industry uses a lot of packaging materials, plastic-based packaging materials. So you have an obligation there to ensure that to the best extent possible, you try to be environmentally friendly. So there are certain packaging materials that are biodegradable, but some are not. As an example, in Sri Lanka, there was a ban of less than 20 ml per liter or less than 20 grams of sachets. So you cannot market small sachets anymore. You don't see small shampoo sachets. We have never made small sachets, but I am saying in the market you may have seen some big players selling large quantities of sachets.

and we were one of the first companies to embrace that. In fact, I personally went to the extent of highlighting the violations by various players in the market. I joined hands with the Central Environmental Authority and fed them with a lot of information. I had meetings with them and I fully supported their decision to ban, you know, less than 20 grams or 20 ml sachets. So, there are regulations, new regulations that come by every now and then. There are new legislations that come by as well. However, being environmentally friendly and having a sustainable mindset is not about compliance. It's about, you know, going beyond that and doing what is right. You should not wait until somebody tells you what to do when you know that, you know, by changing, you can help the environment. You know, you should be the first one to make that change. So, we have made a lot of changes there. And we are not, you know, using harmful ingredients. We are all, you know, tested to ensure that we comply with not just local standards but global standards. So, that way, we, you know, make our contribution towards sustainability. I talked about technology, you know, previously.

So, that aspect is adequate to our, I believe. So, working with our distributors and our outlet network partners, we, you know, try to embrace all the right values. A cosmetic company should be nurturing and, you know, living by. So, I can proudly say that Dreamron is one of those companies that does not violate any regulations. And in fact, on our own, we go the extra mile to ensure that we help the environment.

How do you envision the path to achieving economic prosperity for Sri Lanka in light of recent events, and what strategies do you believe the country should prioritize on this visionary journey?

Yeah, that's what it is. I know. able to weather the economic environment, and the hardships they are having to go through and they pull on the assumption that other countries are better than Sri Lanka in terms of economic performance. Because the visuals you see are, you know, more luxurious. You know, someone going from here to a Western country or any developed country, you know, would be better. attires and, you know, the shoes would look much nicer. So the visual is more impressive. So you tend to think that it would be for luxury living, you have to get out of the country. But those who have migrated and working in other countries know how difficult life is. So if you look at the cost of money, yes you earn more money in another country, especially if it is Europe and some of the developed. Asian countries. You know, so you see a much better landscape. You see, you know, more money is being earned. But at the same time, the amount of money you have to spend to live your life, you know, doesn't give you any savings, right? If you were in Sri Lanka, 350 rupees would have been enough to have a complete meal still, right? Even after inflation.

But you go to another country to have a meal, you know, you might have to end up paying $25, right? So that is almost 1,400 rupees. So that's how many times, so it's about four times more, right? So a person who is earning 100,000 here in Sri Lanka today, when she or he goes out, has to earn a minimum of 400,000 to maintain a quality of life. So that is certainly an issue. So all that I keep telling the younger generation is that work hard and apply themselves, dedicate themselves to get up to about 300,000 rupees monthly income. Then with that, the life you can have here, you can't have anywhere else in the world, right? So if you look at the UK, Australia, New Zealand, US, the inflationary rates are, you know, very, very high. The UK, for example, reported an 11% inflationary rate. So 11% in a strong economy where there is a stronger currency is equivalent to five times more inflation, you know, in a country where the currency is much weaker. So it all depends on how you process the information and what comparisons you make. And with that what conclusions do you come up with? But having said that, if someone is going, I mean, going is not something I would say no, no, right? What I'm saying is, be sure that by going, you can really achieve what you want to achieve in life. You know, becoming a professional, you know, using the right route, getting the visas the proper way and without, you know, violating anything, you know, within your own discipline, you can earn a lot more money and you, with that money, you can live a good life and you can send something back to your home country as well, to your family members and friends and, you know, everyone.

Then it's okay. I'm not saying don't go. What I'm saying is, if you're going, you know, go for a very high job and make sure that you know, you have the eligibility criteria to become a citizen of that country or to have a proper work permit. And you go, you work, you get some exposure and if you like, you stay there or if you don't like, you come back and work here with elevated knowledge and capacity, you know, you'll be respected even as a staff. So, I'm saying professionals can go a certain percentage.

The issue in our country is that by design, we limit the production of professionals. When it comes to doctors and, you know, engineers, the current doctors are very envious about the future generation and they don't like any private medical colleges being started in Sri Lanka and they say so many doctors are leaving the country. They are the ones who have actually, you know, limited the production of doctors in Sri Lanka. So, it's a very bad attitude and it's inhuman but, I mean, education is given to the right people through private education with the required approvals being given. Then, of course, you know jobs. So that is what it is, what prevents us from producing 10,000 doctors on an annual basis in Sri Lanka. We can easily do that. Stop complaining because we are not producing enough.

So I am saying produce brains and allow a certain percentage of that to train. It doesn't matter. You see what Indians are doing. They export professionals to well-developed countries. And they earn extremely good money. Whereas Sri Lankans still have a habit of going to do labor jobs. Attendees, maids, drivers, carpenters, and plumbers, for those manual jobs. So we should stop that and we should send brains. So those are my thoughts on the question that was submitted.

What advice do you have for aspiring entrepreneurs and individuals seeking professional success in this digital era, especially for those willing to take the risk and seize the opportunities it offers?

I am saying be the best you can be. There is competition whether you are here or anywhere else in the world. Finally, whether you will be a winner or not will depend on how good or bad you are. And wherever you are in the world you have to face the reality of the world. So my advice is to be the best competitor you can be by getting the knowledge that is demanded. Getting the knowledge that is branded and evolving the knowledge. Going beyond your core knowledge and while you will have your core, going beyond your core and knowing more than one thing. So that is the knowledge aspect and then of course you have to add all the skills required. Because skills are critical. Just having knowledge will not take you anywhere.

So in terms of skills, modern skills are skills that you really need to work on. So you combine your knowledge with modern skills and the right attitude by being here. When you are 27, or 28, when you are 30, at today's cost of money you can easily earn 500,000 rupees a month.

So you earn 500,000 rupees a month in Sri Lanka, the luxury life you can have here, you can't have anywhere else in the world. So my advice is to work on your competitive advantages. You are going to be better than others. So for that do a self-assessment and see where you are relative to your competition. See where you need to improve on, where you need to keep developing. You will be a much stronger individual in terms of knowledge, skills, and capacity.

And you keep applying yourself and through that process, you will be better than others. And when you are better than others and you become a star in Sri Lanka, you become a performer in Sri Lanka. The life you can have with money and with recognition, you can't have anywhere else.

Living is all about relationships. It's not about marooning yourself in some remote location where you have no competition, and no people around. You are sitting on a little mountain and you think you are the biggest guy in the world. Forgetting the fact that you have been marooned by floods or whatever. So we have to look at the bigger picture. We live in a very competitive world. And the idea should be to beat the competition and be a clear winner. So if you have the power of determination, the power of persuasion, you need to have to keep performing. The benefits of performing at the right level will give you the best life you can have anywhere else in the world.

Interviewed and written by:

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THE STORY OF
THE INDUSTRY OF PHARMACEUTICALS

Mr. Ashan Wanduraga
CEO- Softlogic Pharmaceuticals

Mr. Ashan Wanduraga

Mr. Ashan Wanduraga
CEO- Softlogic Pharmaceuticals

The pharmaceutical industry in Sri Lanka is known for its potential in import substitution and further development as a full-fledged export sector. Local pharmaceutical spending stands at USD 750 million, with a projected five-year compound annual growth. The country's pharmaceutical market is expected to expand in the near future, with key drivers being the growing and aging population.

However, the economic crisis in Sri Lanka significantly affected the pharmaceutical sector, resulting in a health crisis due to severe shortages of essential drugs and medical supplies, as reported by the World Health Organization (WHO) (1). By January 2023, data from the Medical Supplies Division (MSD) showed that out of 383 essential medicines, 164 were out of stock at the MSD, with limited availability in hospitals. Additionally, 90 medicines had only one month's supply, 38 had 2-3 months, and 18 had just 3 months.

While the economic crisis played a significant role in these shortages, issues in the supply chain also contributed. Addressing these challenges can improve the pharmaceutical supply chain, preventing future shortages and reducing medical supply costs. This information was gathered from a discussion with Mr. Ashan Waduraga, the CEO of Softlogic Pharmaceuticals, regarding the state of the industry.

We've faced the challenges of COVID-19 and continued to struggle as a country in its aftermath. During this time, there was a shortage of pharmaceuticals. What were the significant reasons for this situation?

After the covid 19, There was a high demand for some particular drugs. In some cases even though doctors advised to take those drugs those drugs were not there in the market. And also the general public was also there in a urge need of getting these drugs. There was a high demand for medicines like Vitamin C, and there was a big vaccum. In Sri Lankan scenario the main isuue was the forex issue we had. Because of that lot of companies around the world they didn't want to supply goods on credit terms. Since most of the companies were not able to do payments on time Supply companies were afraid of not getting payments on time. So it was the main reason for this scarcity.

When it comes to Softlogic Pharmaceuticals, how was the company able to manage its supply chain despite all these challenges?

Supply in the sense there are ups and downs and still we are struggling to do our best and to provide goods on time for our customers. Still now our economy is not performing as per our interest. So our supplyer countries do not prioritize Sri Lanka. As an example if we consider India if they supply to some other 10-20 countries in the world. Then why should they prioritise a country like us since our economy is not yet stable. India and Pakistan these are the main countries that we import drugs. Bulk of products are imported from them.

Absolutely they are not confidents enough to continue the business relationships. Since we had long term relationships with them for a long time somehow we could able to continue supply relationship with them. Earlier we had process of giving notices two months prior to the need but now we have advised to send notices 3-4 months before the requirement. If we need to have some sort of medicines in the month of February, if we get that notice today itself then that is easier to continue proceedings. Then we have enough time to order, Do payments and get ready for the unexpected results. But since we need to supply our products on time we have asked companies to inform about amounts needed. We always try to give our products on time for the general public to do payments on time.

Nowadays, business organizations use technology as a solution for the current drug shortage. When it comes to Softlogic Pharmaceuticals, how has technology influenced its operations?

We are moving with the technology as a country. Everything within the company is interconnected and digitalized. This has improved the efficieny and productivity. Specially When we talk about the systems that we have in between the pharmacies within the country all these sysytems are interconnected. Through this system we will be able to know about the stocks and availability of drugs and requirement of drugs so we have that opportunity to know about these by using the system that we have. We do forecasting very easily. If we want to know about a particular pharmacy How much of products they have sold up to yesterday then we can know about it?

If we compared our system with any other big company in the industry, we all have the same system. It has ease our work and has improved efficiency and productivity.

We are aware that our investments in the pharmaceutical industry as a country are very low. However, if we could encourage investments, how would this impact the overall quality of the economy?

As a company we were able to bought a loss making company 2 years before just after 19, and we were able to make it into a company where it generate.

So this industry is a growing industry and it's better if we can provide facilities and other resources and should encourage investors who are interested in this field. When more and more people come to this industry we can have some local manufac- turers and those people will be able to do production despite the import export tax terras. And when this happens it creates opportunities of employment and people will be able to find new job opportunities. From governments side if they could necessary resources then it can enhance the overall quality of the economy as well. Because then as a country we don't want to depend on other countries in that industry.

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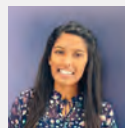
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JOHN KEEL'S JOURNEY THROUGH THE ECONOMIC CHALLENGES

Mr.Daminda Gamlath, The President of the Consumer Foods industry group within JKH

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The President of the Consumer Foods
industry group within JKH

John Keells Holdings PLC (JKH) is a prominent conglomerate in Sri Lanka with a wide-ranging portfolio. Their interests span diverse sectors, encompassing the management of hotels and resorts in both Sri Lanka and the Maldives, the provision of port and marine fuel services, logistics, IT solutions, food and beverage manufacturing, supermarket chains, tea and stockbroking, life insurance, banking, and real estate. JKH has made a substantial impact on nearly every major sector of the country's economy.

Daminda Gamlath, the President of the Consumer Foods industry group within JKH, has been associated with the company since 2002. His prior roles include serving as the Sector Financial Controller for the Information Technology and Consumer Foods sectors. He later assumed the positions of Head of Beverages in 2013 and Sector Head in 2017. Before joining the John Keells Group, he worked at the Hayleys Group. Daminda holds a B.Sc. in Engineering from the University of Moratuwa, an MBA from the University of Colombo, and is a passed finalist of the Chartered Institute of Management Accountants in the UK.

During the session we had with Mr. Daminda Gamlath, we delved deep into the operations of John Keells Holdings, gaining insights into how the company is performing amidst all the challenges.

We are aware that John Keells Holdings operates across various industries throughout the country, and the past few years have been challenging for businesses. As one of the largest conglomerate companies in Sri Lanka, could you share insights into how challenging it has been for your company?

I think if you started from the beginning, the last three years have been very challenging We started with the COVID lockdown, a year before with the Easter attacks. And that impacted tourism and especially the hotel industry. And it took a while to recover. It was an embarrassing time. Once everything was cleared, the industry became normal and the business environment became normal. And then we got the COVID impact and the lockdowns and the right and wrong lockdowns.

The spread of that and the worldwide issues that we had continued for about two years until the vaccination program rolled out in most of the countries and the epidemic was under control.

But during that time, on and off, in the lockdown periods, the market came back to normal. And there was a pent-up demand as well. With that, we thought that that was the most difficult period that the companies faced. But when the financial crisis started impacting the businesses, it was far worse than the COVID impact because the companies struggled to find currencies, and materials to run the factories, and the people were suffering and all that.

So I would say that the last three or four years and the last year where we had to navigate through the financial crisis was the most difficult one.

And that was the most challenging one. And how we sort of managed it through is through the planning and preparation and anticipating what is going to come. And it's not that the businesses didn't suffer, businesses suffered. But holding on to the strengths of the individual businesses and the group and the companies, we managed to navigate through that, I wouldn't say successfully, but we survived that crisis.

How did John Keels Holdings manage these challenges, and were there any specific initiatives undertaken by the company to overcome them?

Certainly, that's all part of getting ready for such challenges. Our crisis management and business continuity plans came into effect during that time. We diligently made these preparations, conducting meetings every week, and at times, even daily. We aimed to anticipate what might happen in the next day, week, or month and determine the necessary actions.

Proactively, we engaged with numerous banks and suppliers to secure our position. Through these efforts, we managed to overcome certain situations. I would say that, for the most part, we were successful. Although not every time, better preparation and anticipation, coupled with taking action before incidents or activities occurred, played a key role.

In doing so, we sometimes accumulated stocks, acquired raw materials in advance, and designed production plans tailored to specific situations. Through these methods of improved planning and preparation and proactive anticipation, we succeeded in reducing the impact to the lowest possible level.

JKH is a widely spread company that managed to survive even through the crisis, as you mentioned. Our country has recently become more familiar with technology, especially after the COVID-19 pandemic. We can see how it has enhanced the overall functioning of businesses. What impact has technology had on the growth of your company?

For instance, during the COVID-19 period, when businesses were locked down, success was denied. We heavily invested in our remote working modules and online platforms. In the supermarket business, there was a significant focus on online delivery, and websites and online portals were significantly developed.

We also embarked on a journey of data analytics during this time. Despite the crisis, we continued with this initiative be-cause we recognized the value of data analytics. We integrated AI models into various use cases of our businesses, identified opportunities in the major use cases, and automated them using data analytics models.

So, most, if not all, of our businesses have adopted advanced technologies and digitization. During this period, we never halt-ed our progress in that journey.

For those individuals interested in joining John Keells Holdings and young leaders entering the corporate world in the near future, what advice do you have?

In this uncertain and dynamic environment, there's no fixed way of doing things. We expect people to be agile and adaptable, as these qualities are key to success. If you can't adjust to this volatile environment, your success may be limited. We're looking for individuals who are agile, adaptable, and capable of thriving in this ever-changing landscape.

To succeed, it's important to get into areas or functions that you genuinely enjoy. When you wake up in the morning, you should look forward to doing something interesting and enjoyable. Additionally, you need to feel competent in those areas. Your competencies and capabilities matter significantly in your journey to success. If you can find a match where you enjoy the work and are competent in it, your output will be better, giving you an advantage in your career progression.

Furthermore, being a good team player is crucial in the corporate world. Teamwork is essential for advancement. Your attitude also plays a significant role in your success. A positive and open ap-proach to challenges will determine your future achievements.

Remember, the right attitude decides your altitude – how far and how high you can go in your career.

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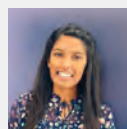
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CHALLENGES AND STRATEGIES FOR
SRI LANKA'S ECONOMIC DEVELOPMENT
A COMPARATIVE ANALYSIS WITH THE USA

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As Sri Lanka is still in the process of recovery, it's beneficial to gain insights from industry experts who can guide our country to overcome these challenges. This article offers a comprehensive analysis of lessons Sri Lanka can learn from the USA, a developed nation, to facilitate its economic recovery. By examining examples from developed countries, we aim to understand the path towards the success of our economy.

Sri Lanka is still considered a developing country. Its growth prospects have worsened in recent times. While the Easter attacks and the COVID-19 pandemic are significant factors, are they the primary reasons for the current economic challenges?

Sri Lanka is still a developing country facing many challenges in reaching a higher rate of economic growth. The Terrorist Attack on Easter Sunday and the Covid pandemic made those challenges much harder to face. Even before those events Sri Lanka was becoming financially weak because of the rapid accumulation of international debt, without a corresponding accumulation of assets. The practice was to borrow to repay old debt. When the Covid pandemic made financial markets around the world weaker there was less appetite for Sri Lanka's debt. This inability to raise new debt led to the default on old debt.

Since independence in 1948, this was the first time Sri Lanka has defaulted on debt. There are very few countries that defaulted on sovereign debt. This has cast a very dark shadow on Sri Lanka's ability to grow.

There are two fundamental factors inhibiting Sri Lanka's growth prospects in the aftermath of debt default. First, Sri Lanka cannot raise investment to raise its capital. The instability discourages both domestic and foreign investment. Second, we have seen a massive brain drain that inhibits human capital formation which is essential for continuing growth.

Even before the debt default, COVID-19, and Easter bombings, Sri Lanka was struggling to become a high-growth economy. This was the combined result of many factors such as wrong and inconsistent economic policies, weak institutions, politicians and bureaucracy with high degree of authority but without any accountability, over-reliance on government for job creation, widespread corruption witnessed in low international rankings (such as Transparency International that ranks countries according to Corruption Perception where Sri Lanka ranked at 101 out of 180 countries in 2022 with Demark ranked at No. 1), and inability to form a cohesive, multi-ethnic and multi-religious society, among many others.

When we compare Sri Lanka with the USA, it is evident that the USA is leaps ahead of Sri Lanka in terms of technology and innovation. What are the possibilities that Sri Lanka could also develop or adopt these advanced technologies?

The USA gained independence from the British in 1776. Those who led the struggle for independence are the 'forefathers'. The forefathers thought very hard about the young country and designed a great governing framework and a constitution. The power to govern is decentralized in three branches of the government. Those are the executive, legislative and judiciary branches. No single branch can abuse the power of the government. All citizens including the President are subject to the common law.

The result was permanent political stability. This allowed the massive formation of physical capital and human capital. The government is not engaged in the production of goods and services, or providing employment. Those are left in the hands of the private sector. As a result, massive private corporations emerged in the USA. They have enough resources to develop new technology. For example, giant corporations such as Apple, Microsoft, Facebook, Tesla, General Mills, General Motors, and Amazon continue to develop new technology without any subsidies or trade protection from the government.

The government plays a vital role in promoting growth in addition to maintaining political stability. They promote science and technology with grants given to universities. The government also regulates the economy, provides public goods and maintains social welfare and safety nets.

The government has provided resources to many universities, but they are not government-owned. They provide subsidized tuition to American citizens. All students pay tuition and bear the cost of living. Few students depend on their parents to finance a college education. Many students do part-time jobs and get student loans.

There are a large number of private universities in the USA. No one opposes private universities. Many of those are the prime universities. Examples are Harvard, Stanford, Massachusetts Institute of Technology and Princeton.

Universities are liberal institutions. Every university is a research powerhouse. They collaborate with industries in developing cutting-edge technology. Very few graduates seek government employment. Universities are also funded by philanthropists. Many philanthropists are old students of those universities. Universities in return felicitate students who have excelled in the private sector, or have become entrepreneurs.

There is no 'ragging' in US universities. Ragging is considered a blatant violation of human rights.

For Sri Lanka to develop technology, a sound and durable political system has to emerge. There has to be space for private sector development including private universities. The quality of those universities has to be maintained by an accreditation agency.

While technology can indeed work wonders, it is not the sole solution for Sri Lanka's recovery. What are the main areas or industries that Sri Lanka needs to focus on for its development and economic improvement?

Technology can emerge in Sri Lanka only if Sri Lanka can maintain political stability, strengthen law and order, upgrade the quality of government, and bring accountability to government institutions while strengthening those institutions. Corruption such as bribery, insider trading, and political brutality has to be eliminated and the country's ranking in Corruption Perception has to be upgraded to the top ten.

What lessons can Sri Lanka learn from the USA as a country to serve as an exemplary model, considering the USA's approach to technology, innovation, and various other aspects of economic development?

a. Make Sri Lanka a law-abiding country

b. Make politicians and bureaucrats accountable for their actions

c. Develop a thorough understanding of the functions and limittions of the government

d. Improve the quality of the government and government institutions

e. Safeguard private property rights

f. Provide room for the private sector to expand

g. Promote free and competitive markets

h. Develop infrastructure such as roads, mass transport systems, and utilities

i. Allow private education

j. Cultivate high-quality research in universities

k. Maintain economic and price stability by strengthening institutions such as the Central Bank

l. Educate the general public about participating in elections and selecting intellectually honest individuals for the parliament

m. Develop respect for all humans

n. Develop the moral fiber of the population

o. Protect the environment

In conclusion, Sri Lanka faces significant challenges on its path to economic development, exacerbated by recent events such as the Easter bombings and the COVID-19 pandemic. The accumulation of international debt without a corresponding build-up of assets, coupled with economic policies and institutions lacking consistency and accountability, has contributed to these challenges. The ability to raise new debt has been compromised, leading to the country's first-ever sovereign debt default. Two key hindrances to Sri Lanka's growth prospects include the inability to attract investments and a significant brain drain, which impacts human capital formation.

In comparison to the United States, Sri Lanka has much ground to cover in terms of technology and innovation. The USA's long history of political stability, decentralized governance, and strong legal systems have created an environment conducive to private sector growth and technological advancement. The government's role is to promote science and technology while regulating the economy and providing public goods. Universities play a pivotal role in research and technology development, often collaborating with industries.
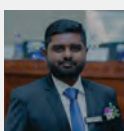
For Sri Lanka to make strides in technology and innovation, political stability, accountability, a strong legal framework, and a conducive environment for private sector development are prerequisites. Eliminating corruption, enhancing the quality of government institutions, and upholding private property rights are fundamental steps. Moreover, nurturing a culture of entrepreneurship and innovation, along with ensuring a high-quality education system, is vital for long-term economic improvement.

Sri Lanka can draw important lessons from the USA, particularly in terms of maintaining political stability, strengthening governance, and upholding accountability. Developing a comprehensive understanding of government functions and limitations, alongside the promotion of free markets and private education, can pave the way for economic progress. Infrastructure development, a commitment to economic and price stability, and the cultivation of moral values and environmental protection are all critical aspects to consider as Sri Lanka seeks to advance its economy and society

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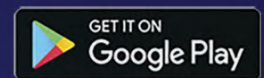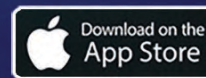
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HOW TECHNOLOGY AND AI INFLUENCE THE BUSINESS

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