LEAN OPERATIONS AND SYSTEMS

SIGMA NEWSLETTER

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(DEEMED TO BE UNIVERSITY)
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SCHOOL OF BUSINESS AND MANAGEMENT

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EDITOR'S NOTE

SIGMA NEWSLETTER

Greetings Readers,

We take immense pride and joy in bringing forth the 68th Edition of the SIGMA Newsletter from Lean Operations and Systems Specialisation.

This issue features a wide range of insightful articles that explore the latest trends and best practices in topics such as quantum computing's impact on logistics, the integration of lean concepts in quick commerce, applications of digital twins, on-demand manufacturing, the transformation of lean systems and management in Industry 5.0, successful application of Lean Six Sigma in Southwest airlines, and the changing landscape of cybersecurity.

We, Team Oasys, express our profound gratitude to our Dean, Dr. Jain Mathew and the entire leadership team, the Head of Specialisation, Dr. Ramakrishnan N, Faculty Coordinator Dr. Saibal Kumar Saha, faculty members of the specialization, and all those who have contributed in developing this edition of the newsletter. It's our pleasure to bring you informative and engaging content. We are eagerly looking ahead to continuing this journey with you!

Stay safe, Stay Healthy.

Regards,
Team OASYS
Lean Operations and Systems Specialisation
School of Business and Management

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"Lean isn't lean if it doesn't involve everyone."

***- John Shook.**

SREE TAMIL V K
2228360

CAN LEAN AND QUICK COMMERCE CO-EXIST?

Quick commerce, sometimes known as Q-commerce, is a business model that has recently generated much debate. While some industry professionals think that these businesses are trying to solve an issue that has never existed, others think that, at least in big cities, the convenience of quick grocery delivery services will lead to their success.

A collection of industrial and management strategies called "lean principles" aims to cut waste and boost productivity. By streamlining their operations to cut costs, accelerate delivery times, and remove waste, quick commerce enterprises can apply lean principles. To simplify their order processing and delivery processes, for instance, they can leverage automation and data analysis. They may decrease errors, save time, and enhance the entire client experience by doing this.

Quicker turnaround times (TAT), slim profit margins, and higher delivery costs are all components of the fundamental business model that drives rapid commerce, which costs enterprises a lot of money. "Companies need huge finances and the ability to operate on negative EBITDA for years to survive in the cutthroat world of rapid commerce. According to Shashank Ramdev, co-founder of 100 X.V.C, "These companies are focusing heavily on boosting top lines and functioning with unsustainable margins of 1-2 percent, which do not lead to profitability".

Various businesses, including speedy commerce, quickly embrace the automation movement. And that makes sense. Manual processes usually take a long time and are prone to human error. By automating them, you can reduce the possibility of human error, increase data accuracy, and give your team more time. Businesses in the quick commerce sector can leverage automation

while cutting waste with the support of lean management and ways of thinking. For example, automation works better for jobs that are repeated often. So, you must first identify any repetitive tasks before automating them.

Using lean principles enables you to monitor your supply chain more closely and identify areas needing improvement (e.g., the RFID technology). Finding areas that could be automated is a necessary first step. Lessening last-mile costs by enabling multi-drop (batched) deliveries, optimizing route planning for delivery partners, and cross-training delivery partners to do multifunction deliveries like food delivery, medicine delivery, etc. are all changes connected to lean that can increase profitability. "The market for rapid commerce is predicted to be worth $30 million in 2021 and to increase up to 15 times to $5 million in 2025", according to RedSeer management consulting. "Overall, we are seeing much consciousness for the quick commerce space. However, the total addressable market or TAM is less than estimated; therefore, the road to profitability might be long. The quick commerce model is undoubtedly revolutionary, but the path to profitability is long. It can be achieved through implementing lean concepts and principles," Ankit Kedia, the founder and principal investor of Capital A, made a statement.

Several lean methodologies are used in the rapid commerce sector:

- **Value Stream Mapping:** Value stream mapping is a lean technique that outlines the flow of resources and information within the company to spot inefficiencies and potential improvement areas. Value stream mapping can help businesses find waste and bottlenecks in their Q-commerce processes to improve them.

- **Poka-yoke (error-proofing):** Poka-yoke is a lean technique for creating error-proof systems and processes. Businesses can employ Q-commerce poka-yoke strategies to enhance the customer experience and prevent delivery problems, such as automated order processing and real-time tracking.

- **Visual management:** Through visual management, procedures can be more precise and straightforward. Businesses that use Q-commerce can monitor their delivery processes and pinpoint areas for improvement by using visual tools like charts, graphs, and dashboards.

By effectively implementing lean concepts, businesses can cut lead times, satisfy consumer demand, fulfill orders at the lowest cost, and provide top-notch customer service.

KARTHICCK M
2228324

IMPACT OF QUANTUM COMPUTING ON LOGISTICS

Quantum computing is making progress steadily. Once thought to be the wave of the future in computing, quantum computers are getting closer to reality every day. These supercomputers use the principles of quantum mechanics, a branch of science that examines how light and matter behave at the atomic and subatomic levels, to overcome the constraints of traditional computing.

Logistics is a critical component of many industries, and the efficient movement of goods is essential to their success. Let us explore some of the potential uses of quantum computing in logistics.

The logistics industry may benefit from quantum computing in several ways. Machine learning and artificial intelligence (AI) systems would operate faster thanks to the addition of quantum computers to present CPUs. According to research by the global consulting firm Accenture, "Quantum computers can provide reliable data for machine learning algorithms. Each iteration of new data can help artificial intelligence learn." Quantum computing has the potential to revolutionize logistics by solving some of the most complex problems that arise in supply chain management.

In logistics, Vehicle Routing would greatly benefit from the use of quantum supercomputers. One of the most significant challenges in logistics is the optimization of vehicle routing. Companies need to balance the cost of transportation with the time it takes to deliver goods.

Quantum computing can help optimize vehicle routing by processing large amounts of data and identifying the most efficient routes. Traditional computing systems need more capabilities in handling large data sets. Quantum computing systems, on the other hand, can quickly process complex data sets, allowing logistics companies to optimize vehicle routing on a previously unimaginable scale.

Quantum computers might considerably lower door-to-door freight transportation costs and increase customer satisfaction by facilitating global route optimization and more frequent optimization. IBM collaborated with a commercial vehicle manufacturer to demonstrate how delivery to 1,200 sites in New York City may be optimized using a combination of conventional and quantum computing. The team employed a route-based approach to minimize the total cost of delivery while accounting for the need for half-hour delivery time windows with truck capacity restrictions.

Quantum computing could make categorization more accurate and prediction of disruption events. Replicating additional disruption scenarios and calculating their effects on various network components could facilitate improved decision-making. Consequently, by reducing the number of "what if" modeling events required, quantum computers doing risk and impact assessments may be able to speed up recovery times, cut costs, and diminish the effects on operations and customer service.

Quantum computing has the potential to revolutionize logistics. Quantum computing may assist businesses in streamlining processes, reducing waste, and raising customer satisfaction by analysing massive volumes of data and seeing patterns that more traditional computer systems would overlook. We may anticipate even more cutting-edge uses in logistics as quantum computing technology progresses.

In its recent studies, McKinsey concludes that "[quantum computing] has the potential to be both transformative and disruptive. Technologies this potent can emerge at unpredictable speeds and cause unpredictable impacts. Business leaders who don't want to be caught unaware should start getting ready for quantum computing now."

NIVESH B
2227939

EMBRACING INDUSTRY 5.0: THE TRANSFORMATION OF LEAN OPERATIONS AND SYSTEMS IN MANUFACTURING

Industry 4.0 marked a significant transformation in the manufacturing industry, introducing automation, data analytics, and the Internet of Things (IoT). Now the world is entering a new phase of this evolution, Industry 5.0, which emphasizes the integration of advanced technologies with human creativity, innovation, and collaboration.

This new paradigm will significantly impact lean operations and systems, which have been widely adopted by manufacturing companies to improve efficiency, reduce waste, and increase profitability. Although lean principles have been around for decades, the capabilities of traditional production systems limit the application of lean principles. With Industry 5.0, manufacturers can achieve greater flexibility, efficiency, and productivity.

One of the key benefits of Industry 5.0 is the flexibility it provides in manufacturing, allowing manufacturers to produce customized products and quickly respond to changes in demand. It calls for the development of new skills and capabilities in lean practitioners, who will work closely with technical experts to optimize production processes and reduce waste.

Another significant benefit of Industry 5.0 is enhanced efficiency in manufacturing. Integrating advanced technologies can reduce downtime, optimize production cycles, and improve quality.To embrace the said changes, lean operations, and systems must leverage real-time data analytics to identify inefficiencies and reduce waste. The production system, including supply chain management, logistics, and quality control, should be considered for a comprehensive approach to lean implementation.
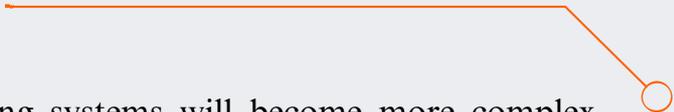
As we move towards Industry 5.0, manufacturing systems will become more complex, managing more data, machines, and processes than ever before.

It will require developing new tools and methodologies, including advanced analytics, simulation tools, and predictive maintenance. Lean practitioners will work closely with technical experts to ensure the effective integration of new tools and methods into the production system. Lastly, Industry 5.0 will significantly impact the role of human workers in manufacturing.

With the help of workers trained in new skills and capabilities, such as data analytics, machine learning, and robotics, the production process would be more collaborative. Lean operations and systems must develop new strategies for integrating workers into production, including collaborative robots, augmented reality, and gamification. In summary, Industry 5.0 represents a significant transformation in manufacturing that will profoundly impact lean operations and systems. It provides new opportunities for manufacturers to achieve greater flexibility, efficiency, and productivity. The successful application of lean operations and systems in this new paradigm will require a new approach that embraces the opportunities and challenges of Industry 5.0.

NOWRIN A H
2228344

APPLICATIONS OF DIGITAL TWINS

Digital twins are virtual clones of real-world systems, processes, or devices used to imitate and improve the performance of the originals.

Here are the two uses for the digital twin:

1. Managing the warehouse with digital twins:

When incorporated with warehouse automation systems, digital twins have numerous benefits, from inventory management to facility design. Companies are now looking for digital twin solutions to model and test several warehouse floor layouts for the best facility design.

By modeling different what-if scenarios and considering elements like facility location, client profile, and demand characteristics, digital twins assist the company in developing uniquely suitable designs for each warehouse.

For instance, Digital twins are a tool Amazon utilizes to improve its physical distribution network's performance proactively. The business analyzes shipments and optimizes real-time product movements for its two-day doorstep delivery services to reach extraordinary service standards.

- To simulate in real-time the effects of future layout modifications for its present supermarket fulfillment facilities, the e - grocery retailer Ocado Group uses digital twins.

- With improved evaluation methods, digital twins have assisted the pharmaceutical business GSK to develop a sustainable vaccine production process and better temperature-controlled product packaging.
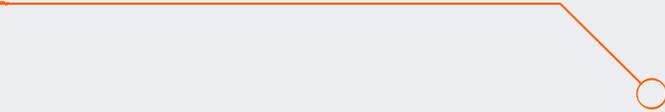
- To enhance stakeholder experiences, Kraft Heinz continuously analyzes stock changes in warehouses, maintains the whereabouts of commodities in real-time, and more precisely predicts consumer and channel requirements.

- Like this, Ikea forecasts using technology.

- To increase the effectiveness of its transportation fleet, asset use, and resource allocation, FedEx also uses digital twins.

- Philip Morris International (PMI) explores numerous what-if scenarios highlighting the long-term effects of strategic decisions using digital twins. Additionally, PMI uses innovation to balance supply and demand, maximize resilience and efficiency trade-offs, and determine the cost-effectiveness (ROI) of expensive expenditures over various time horizons.

2. Delivering the final mile via a digital twin: The last-mile delivery process could be complicated for several reasons. Some of the most frequent issues with last-mile delivery include the following:

- **Traffic congestion:** Congested traffic is one of the significant issues with last-mile deliveries. Urban regions with heavy traffic are regularly traveled by delivery vehicles, which can cause delays and make it challenging to stick to delivery windows.

- **Accurate delivery addresses:** An additional common issue is incorrect delivery addresses. Delays and higher expenses could result from the delivery services' requirement to employ time and resources to locate the correct location.

- Delivery Window: Why Customers commonly want deliveries within a specific time window, which delivery firms may find challenging to accommodate. Due to parking restrictions and traffic congestion, fast delivery windows can be tough to satisfy in dense urban areas.

Here are a few examples of last-mile delivery techniques that leverage digital twins:

- **Route optimization:** Digital twins can assist in determining the best possible delivery route for a vehicle using real-time traffic and weather data. Maximizing the delivery route can reduce delivery times, and the number of trucks needed can be reduced.

- **Predictive maintenance:** By monitoring the state of machinery and delivery vehicles, digital twins can alert maintenance staff to potential problems before they cause downtime. By planning maintenance needs, fleet managers can reduce the impact on delivery schedules by arranging repairs during off-peak times.

- **Tracking packages:** Digital twins can track packages through the delivery process.

Overall, digital twins can enhance last-mile delivery by providing real-time monitoring and insights into the delivery process. By enhancing routes, foreseeing maintenance needs, tracking packages, and providing real-time data, digital twins can help save costs, boost efficiency, and improve the entire customer experience.

Amazon has run into several challenges when it comes to last-mile delivery – the phase of the delivery process where products are transferred from a local distribution center to the customer's doorstep.

Amazon can solve these issues by utilizing digital twin technology. By creating a digital twin of the last-mile delivery system, Amazon can simulate various scenarios and assess potential solutions before implementing them in the real world.

DEEPAK RAJ A
2228317

ON- DEMAND MANUFACTURING

On-demand manufacturing is a new manufacturing system. The system formerly relied on items with set specifications that needed to be produced in bulk and kept. Larger businesses have historically had an edge in manufacturing since mass production and storage are expensive. However, the introduction of on-demand manufacturing will change all of this. With the development of technologies like 3D printing, making materials in increasingly smaller amounts and for less money is now possible. Large minimum order quantities are a thing of the past. Furthermore, it is critical to recognize the reduction of lead times. On-demand manufacturing is effective when the vendor and the customer's systems are connected. Rapid placement of orders will make the system work. As a result, standardization and economies of scale are no longer necessary. According to the proponents of this method, large factories and warehouses will soon become obsolete due to the numerous benefits of on-demand manufacturing.

Advantages of On-Demand Manufacturing:

Level Playing Field: The on-demand manufacturing system equalizes the field of play for big and small firms. There is no need for mass production because the cost of goods per unit remains relatively high. As a result, a few unimportant businesses cannot effectively control the market. Customers may purchase products that are both inventive and affordable because of more competition, which also implies more incredible inventions.

Testing the Markets: On-demand manufacturing is perfect for industries where consumer tastes and preferences are continuously shifting, such as fashion and retail. The conventional model states that selling a product will take these businesses six to nine months. Certain presumptions compel them to access demand. Manufacturers are left with unsold goods in their godown if the estimate needs to be corrected. The lead time was less than a month before the advent of on-demand manufacturing. It makes it possible for companies to market tiny lots. Based on the sales of these lots, businesses can choose whether or not to make additional of them.

No Need for Markdowns: In the modern clothing industry, markdowns and end-of-season bargains have become standard. Such discounts are only possible because mass-produced goods go unsold until the end of the season. Markdowns will be obsolete as on-demand manufacturing takes the place of mass production. These price reductions harm the seller's brand. In anticipation of product price drops during the markdown, many shoppers choose not to buy things. The end-of-season sales might be going away as on-demand manufacturing spreads.

Environmentally friendly: It is essential to realize that the mass production of items also harms the environment. Production of commodities in significant quantities leads to the draining of more resources. Sometimes these products are disposed of even before their usage. Thanks to on-demand technology, natural resources are only used in manufacturing when there is genuine customer demand. As a result, compared to other production methods, on-demand manufacturing is much more environmentally friendly.

Bottom line: From a financial, environmental, and operational perspective, on-demand manufacturing is preferable. It will soon replace other production methods as the most widely used one.

SAGARVA SRIVASTAVA
2228043

SOUTHWEST AIRLINES AND SIX- SIGMA

A lean approach or process is a way of thinking that views using resources that do not provide value for the customers as wasteful. The method then seeks to remove these wastes from the system; Southwest is one of the airlines that have continually made money despite the challenges the airline industry faces. Also, they have a reputation for timely and effective service. One of the contributing aspects to their success is the cheap cost of their operations. Large minimum order quantities are a thing of the past. Furthermore, it is critical to recognize that the period of lead times is ending. On-demand manufacturing is effective when the vendor and the customer's systems are connected.

A customer-centric approach to its operations: The "bags fly free" idea was developed by Southwest Airlines. There is no additional cost for the first and second bags, but the competition charges approximately $120 roundtrip for baggage. They use Value stream mapping for their baggage handling. To track the movement of baggage through the system from the point of check-in to the point of delivery at the destination, the organization employs VSM. By doing this, the business may spot trouble spots where delays and bottlenecks used to happen, as well as chances to enhance the movement of luggage through the system.

Eliminate waste in the value stream: Southwest reduces downtime by accelerating plane turnaround. Each employee helps to make sure that take offs and landings happen on time. They focus on point-to-point routes and distribute passengers throughout the airport using a hub and focus on point-to-point routes and distribute passengers throughout the airport using

a hub and spoke structure. Also, they do not assign seat numbers to passengers as it takes time to find a seat and organize passengers according to their seat numbers. Thus, they allow passengers to choose any available seat, which reduces their on-ground operations time.

Maintenance: Southwest Airlines have implemented a Six Sigma Maintenance Performance Toolbox (MPT) program for efficient aircraft operations.

- **Process Mapping:** The MPT uses process mapping to pinpoint the maintenance procedure phases and highlight potential hotspots for waste and inefficiencies.

- **Root Cause Analysis:** It uses RCA to pinpoint the primary reasons for maintenance issues and create workable ways to resolve them.

- **Statistical Analysis:** They evaluate the effectiveness of the maintenance process and seek out areas for development.

- **Standardization:** The MPT highlights the value of standardized maintenance methods and processes to maintain consistency and dependability.

- **Training:** It offers training to this group of individuals to ensure that maintenance staff have the skills and knowledge to carry out their work effectively and efficiently.

They implement the 5S approach in maintenance for their effective operation.

Affordable service without compromise in quality: The Boeing 737 is the only kind of aircraft used by Southwest, which accounts for its low-cost business model. In addition to saving on gasoline, this method keeps the variable maintenance costs down. Southwest does not serve any meals, but luxury seats are available. All of these factors allow them to provide clients with lower ticket prices. Also, as they have a single aircraft type, their inventory holding cost for spare parts decreases as they only have one aircraft. The supply of spares and aircraft maintenance also becomes faster due to single-type aircraft. The crew is also trained for single aircraft, reducing training costs for other types.

MS. KARTHIKA SELVARAJ

CYBER SECURITY - THE CHANGING LANDSCAPE

Cybersecurity is the activity of preventing unwanted access to, theft of, or damage to digital systems, networks, and sensitive data. With people relying more and more on digital technology, automation, intelligent systems, and the internet, as business operations are entering industry 5.0, cyber security has emerged as a crucial component of shielding people, businesses, and governments from online threats.

WHY IS CYBER SECURITY IMPORTANT FOR BUSINESSES

Cost: An IBM report-"Cost of data breach 2022"- states that the average cost incurred due to data breach stands at USD 4.35 million. The report also highlighted how the healthcare industry is the worst hit, with data breach costs continuously rising for more than 123 years now.

Protecting sensitive data: Companies keep any sensitive data, including private customer information, financial information, and business-related information. Weak cybersecurity can lead to unauthorized or malicious access to these sensitive and valuable data. It creates enormous mistrust among businesses, employees, and customers.

Requirements for compliance: Several manufacturing and service industries regulate data security and privacy. By putting in place the required security measures and offering regular security assessments, cyber security measures can assist organizations in adhering to these standards.
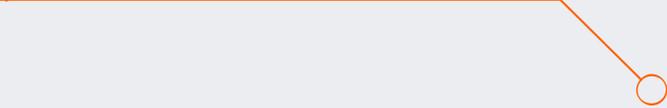
MYTHS OF CYBER SECURITY

"I don't have anything valuable, so hackers won't target me."

The above statement is a typical fallacy. Because they have fewer security precautions in place and are, therefore, more manageable targets, hackers frequently target smaller firms or individuals. Furthermore, even if people do not think they have anything important, they could still be the target of a hacker attack because they can utilize infected computers to attack bigger targets.

"I am fully secure because I have antivirus software"

Antivirus software is not 100% effective against known dangers, even though it can offer a reasonable level of security. Antivirus software may be unable to identify the new malware constantly being produced. Moreover, antivirus software cannot defend against every cyberattack, including social engineering and phishing attempts.

RISKS OF CYBER SECURITY

- **Expanded attack surface:** Connecting more systems and gadgets to the internet has led fraudsters to have a larger area to attack and exploit for flaws.
- **Increasing complexity:** It is more challenging to identify and address vulnerabilities and potential security breaches as a result of the interconnected systems and devices' growing complexity

**EXAMPLES OF DATA LEAKS IN RECENT TIMES IN 2023**

Data Leak from ChatGPT: A bug in the open-source library used by ChatGPT led to the chatbot disclosing client personal information, including some payment card details and the titles of individual sessions they started. "In the hours before we took ChatGPT offline," OpenAI said after the incident, "Some users could see another active user's first and last name, email address, payment address, the last four digits (only) of a credit card number, and credit card expiration date. Whole credit card numbers were not exposed at any time.

- **Data Breach at Sharp Health Care:** 62,777 patients were made aware of the incident that led to the compromise of personal information in a recent attack by Sharp HealthCare, the leading healthcare institution in San Diego, California. Customers' Social Security numbers, health insurance information, and medical records were exposed. However, according to Sharp, no bank or other payment-related customer information was taken.

REASSESSING THE CYBERSECURITY STANCE

- **Cyber threats constantly evolve:** Cybersecurity risks continually change, and new dangers keep evolving. To protect their business effectively, managers must stay current on the most recent threats and evaluate cybersecurity solutions. A close examination of Various industry reports from organizations such as IBM, McKinsey, and BCG is periodically necessary to understand the current trends. Continuously improving cybersecurity policies will put businesses one step ahead in avoiding risks.

- **Technology changes:** Technology is continuously growing, and new developments frequently bring with them brand-new security flaws. A zero-trust strategy requiring all users, devices, and platforms to be authorized and verified for every access to sensitive data is a way to ensure that a reduction in cybersecurity risks takes place.

As future managers, a thought to take home here is to ensure a smooth transition for employees and clients while leading them towards an industry that could reap the benefits of the never-before-seen connectivity while protecting its operations from unanticipated threats. Adopting a progressive cybersecurity policy is the key here.
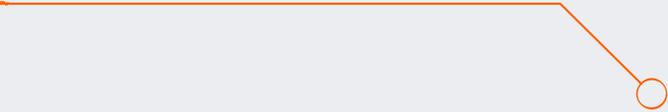
ARAVETI HASANTHI
2127934

'HUDO OPERATIONAL MASTERY' EXPERIENCE

XIMERA was an excellent opportunity for us, the flagship event of Xavier's Institute of Management and Entrepreneurship, Bangalore. As a team of 4 members, we participated in the HUDO OPERATIONAL MASTERY competition and were adjourned event winners.

The event consisted of 4 rounds, which tested our knowledge of Operations concepts. The first round was a Kahoot Quiz which consisted of 20 questions related to operations and general management. The participants were on their toes as the game moved further.

The second round was a mystery box where each team had a locked box. We had to answer a question to unlock the box, and then we were permitted to unlock the box. After unlocking, a puzzle inside the box needed to be solved, we took 25 minutes to solve the puzzle and derive the final answer.

The next round was Human Ludo, which resembles the game LUDO. For every seven boxes, there will be a cross mark. Each team should roll a die and move accordingly, and to cross each cross mark, we should answer a question. We are the first team to complete the round and reach home. The game was fascinating and engaging, as so much creativity was involved.

The final round was a case study consisting of a short case with seven problems that were to be solved in 45 minutes and should be presented within 15 minutes, followed by Viva.

The overall experience was good, with a lot of learning, exposure, and fun. I encourage you to participate in such competitions and have fun-filled learning experiences.

VAIKAVI JANANI R
2128056

POETRY
EVOLUTION OF MAN

You cut down trees
To make firewood
To make a house
You learnt new taste, hunted and fed well
You slept inside comfortable and cozy
You cut down trees
To clear up space
To build huge concrete walls
The value of what
Once fed and kept you warm
Continually depreciating

Seasonally you clothed in soft fur
You adorned leaves and flowers
Simple cotton feels supreme
You dug up earth and found metal
Quickly put a price tag
On Diamonds, Gold, and Silver
The ever growing business

The value of what
Once clothed and protected you
Almost zilch.
You established kingdoms
Armies larger than citizens
Fences larger than dining tables
Out of black stone
You made Gods
oon outcasting the sculptor
A man-made handbook of rules

The value of why
The Throne was given to Lead
Lost on the chosen few.

You built a plastic world
Your only motive being to sell
At the cost of everything dying
Asserting dominance through control
The victory to your ego boost
Is the blood drenched sword
Your greed setting this land on fire
Accumulating materials you will leave behind
The value of trade itself is
To share available resources
And save the remainder of humanity.
You engineered machines
You improvised to soothe your laziness
You complain about contamination in air and water
About the price you have to pay
Not just in colorful numbered notes

Now Nature is a luxury
A trained breathing robot
Yearning to live
The value of that tree cut down
I would like to do a little just
By feeding words in this paper.
You engineered machines
You improvised to soothe your laziness
You complain about contamination in air and water
About the price you have to pay
Not just in colorful numbered notes
Now Nature is a luxury
A trained breathing robot
Yearning to live
The value of that tree cut down
I would like to do a little just
By feeding words in this paper.

NIDHIN NELSON
2127917

CHILDHOOD: THE GOLDEN PERIOD OF LIFE

The phase you want to grow out of as a child
The phase you want to go back to as an adult
*A phase you and I wish to remember*
Growing old, cherishing memories

When cuteness is disguised as mischief
When innocence is disguised as weirdness
No responsibilities whatsoever
Just hakuna matata!

A golden period of cuddles and ignorance
A time for adventures and fantasy
It be a Ninja or a Barbie
Childhood sure as hell brought out the best in me!

Oh! If only childhood were a country
My visits there would be in numerous
The rules of life push me forward
Not looking back now
Just living in the moment

ESHA KUMARI
2228019

CROSSWORD
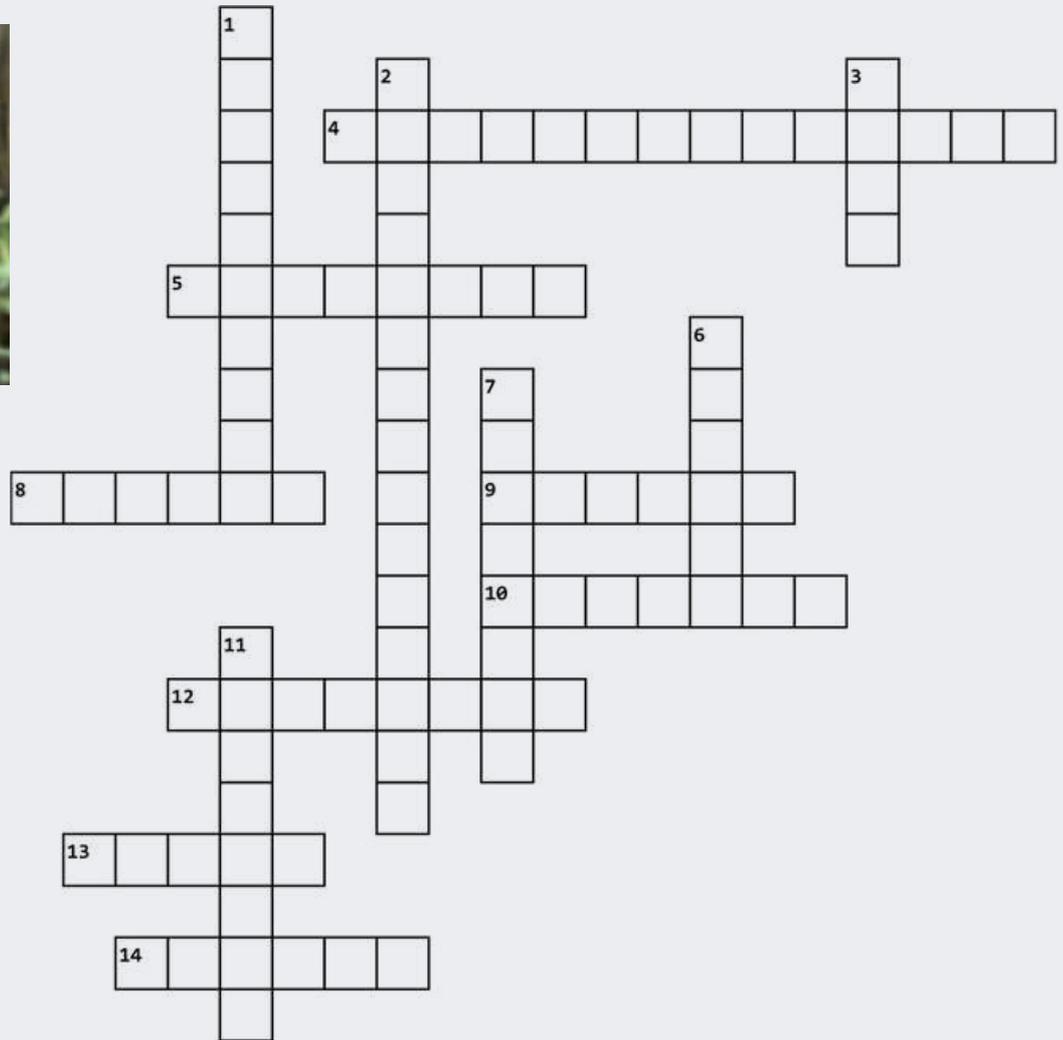
Across

4. Problem-solving at the actual place to see what is really going on

5. Production leveling process that attempts to minimize the impact of peaks and valleys in customer demand

8. Ceasing production and notifying humans if a defect is detected

9. Continuous improvement

10. 7 wastes found in manufacturing

12. Maximum defect probability of 3

13. The real place, where the actual services are provided or where the work is done.

14. A card or sheet used to authorize the production or movement of an item

Down

1. Processes or operations that reduce the capacity of the entire production chain.

2. Grouping machines or processes that are connected by work sequence in a pattern

3. Unevenness

6. Chart showing the 80/20 rule

7. The amount of time a manufacturer has per unit to produce enough goods to fulfill customer demand.

11. Cause-and-effect diagram

SEE PAGE 24 FOR ANSWERS

CLUB ACTIVITIES

QUIZ

A quiz on lean operations and systems was conducted as a part of the first club activity for March 2023. First year LOS students (L3 and L4) were divided into different teams of five members each and a kahoot! quiz was hosted by the club. There were 20 questions, all pertaining to different aspects of LOS, which were answered by the teams with great enthusiasm. This served as a learning opportunity for the first year LOS students to be aware of various concepts used in LOS stream. The highest scoring team for the quiz was felicitated. The invigorating session set the pace for the upcoming club activities.

INDUCTION OF JUNIOR POCs

After a detailed and exhaustive selection process, the PoCs and members for different teams of the OASYS club were announced by the senior PoCs. The newly selected members were felicitated and asked to address the gathering briefly. By the end of the session, the senior PoCs of the club gathered with the recently chosen members to discuss the roles and responsibilities within and among different teams of the club. The future scope of other potential activities was discussed, and the new members were assigned goals to be met for the upcoming year.

STUDENT ACHIEVEMENTS

XIMERA 2023

XIMERA is a business fest conducted by XIME Bangalore that boasts participation at the national level, including IIMs. Bala Murali Krishnan M. and Steve Vivian Paul from the LOS specialization won the 'Battle of Hoops' event in the intercollege fest XIMERA held on March 10 and 11.Also Praveen R, Araveti Hasanthi, Edwin P A and Vishnu Ram C brought laurels in "HUDO OPERATIONAL MASTERY" 2023. Moreover, it was a moment to be cherished when Christ University, Bangalore, was adjourned the Overall Champion, also being felicitated with a trophy.
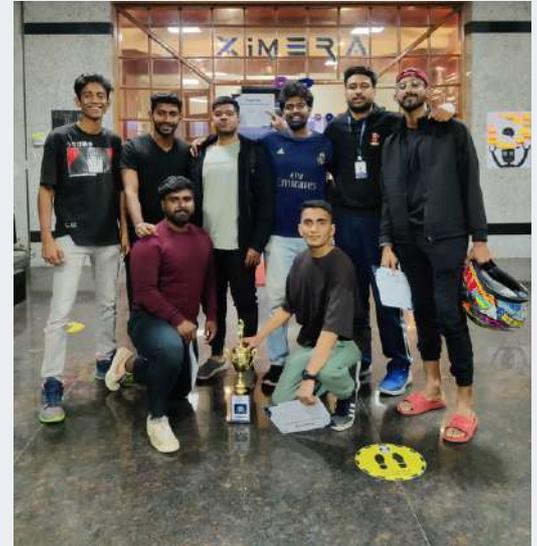
TQCEBT 2022

A notable achievement from our specialization comes from Janhavi Ravindra Deshmukh, who got her paper titled 'Process Optimization Using Value Stream Mapping in PCB Manufacturing' published in the conference proceedings of the 2022 International Conference on Trends in Quantum Computing and Emerging Business Technologies (TQCEBT) published by IEEE.

TEAM

Saumya

Sucheta

Tarun

Gayathri

Aparna Anand

Christeena Joseph

Vidhi Juneja

Praveen Kumar

Aditi Mishra

Nidhin Nelson

Francis Kuruvilla

Nandhini M

Sreekanth V

Bhavishya Goyal

Thinakaran S B

Gauwdami P

Esha Kumari

Christy Maria Benny

Head of Specialization

Dr. N Ramakrishnan

Faculty Co-ordinator

Dr. Saibal Kumar Saha