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Synopsis of Objectives

- An Association with over 550 members from India and abroad working since last 72 years for the growth and development of Leather and its allied industries.
- Organize seminars, symposiums, workshops in order to share information, knowledge & latest development and interactions for the benefit of all concerned.
- Organize Human Resource Development programmes on regular basis.
- Publish for over 72 years, a technical monthly journal namely "Journal of Indian Leather Technologists' Association" (JILTA), widely circulated through out the World.
- Publish books for the benefit of the students at various levels of study, for the Research Scholar and the Industry.
- Work as interface between Industry and the Government.
- Assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies for the growth of the Industry.
- Assist small and tiny leather goods manufacturers in marketing their products by organizing LEXPOs in Kolkata and different parts of India.



Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies]

'Sanjoy Bhavan', 3rd Floor, 44, Shanti Pally, Kolkata- 700 107, WB, India
Phone : 91-33-2441-3429 / 3459 • WhatsApp +91 94325 53949
E-mail : admin@iltaonleather.org; mailtoilta@rediffmail.com
Website : www.iltaonleather.org

JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

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Hony. Editor : Dr. Goutam Mukherjee

Communications to Editor through E-mail :

admin@iltaonleather.org; jiltaeditor@gmail.com

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All other business communications should be sent to :

Indian Leather Technologists' Association

'Sanjoy Bhavan', 3rd floor, 44, Shanti Pally

Kasba, Kolkata - 700 107, WB, India

Phone : 91-33-2441-3429

91-33-2441-3459

E-mail : admin@iltaonleather.org;
mailto:ilta@rediffmail.com

Web site : www.iltaonleather.org

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JOURNAL OF INDIAN LEATHER TECHNOLOGISTS' ASSOCIATION (JILTA)

Indian Leather Technologists' Association is a premier organisation of its kind in India was established in 1950 by Late Prof. B.M.Das. It is a Member Society of International Union of Leather Technologists & Chemists Societies (IULTCS).

The Journal of Indian Leather Technologists' Association (JILTA) is a monthly publication which encapsulates latest state of the art in processing technology of leather and its products, commerce and economics, research & development, news & views of the industry etc. It reaches to the Leather / Footwear Technologists and the decision makers all over the country and overseas.

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Send your enquiries to :

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'SANJOY BHAVAN'

3rd floor, 44, Shanti Pally, Kasba, Kolkata – 700 107

Phone : 91-33-24413429 / 91-33-24413459

E-mail : admin@iltaonleather.org / mailtoilta@rediffmail.com / iltaonleather1950@gmail.com

Website : www.iltaonleather.org

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The Effect of Russia - Ukraine War on Several Economy



The Effect on Central and Eastern European region proved surprisingly resilient to the spill overs of the war in Ukraine last year. Economic growth figures for 2022 largely beat market expectations, despite a severe energy crisis, deeply entrenched consumer and investor pessimism and growing geopolitical uncertainty. Energy disruptions threatened to deal a heavy blow to CEE economies due to the region's high dependence on Russian energy. By September, Russia had drastically reduced pipeline gas flows to CEE, with the notable exception of Hungary. However, high existing energy reserves and rapid supply diversification—including greater LNG imports, the launch of the Greece-Bulgaria interconnector and increased coal production— prevented deep disruptions to economic activity. That said, the regional economy was still hit by Western sanctions on trade and voluntary cut-offs of trade links with Russia and Belarus. Baltic states have been disproportionately affected, given their historic trade links to Russia, with annual growth in Baltic exports falling notably below the CEE average in 2022. In turn, the energy crisis and sanctions packages affected the productive sectors of CEE economies, leading to a deterioration in industrial activity across the region. In addition, financial sanctions on Russia and input shortages—such as of feed crops from Ukraine and fertilizer from Russia and Belarus— further dampened output. Nevertheless, trade of non-sanctioned goods continued, and exports to CIS countries rose significantly, sparking concerns over the circumvention of trade restrictions. The war has hurt the region's monetary panorama. In 2022, inflation in CEE more than tripled from the previous year. In December, CEE inflation was 17.0%, exceeding the EU average of 10.4%. Price pressures for energy and transport soared due to the war, while food inflation spiked on disruptions in global commodity markets, exacerbated by Europe's worst

drought in 500 years. CEE's tight labour markets further fanned inflation, pressuring central banks—particularly in the Czech Republic, Hungary and Poland—to take aggressive monetary policy stances and rein in price and currency pressures. Moreover, fiscal stances were CEE: Snapshot expansionary last year. Countries announced measures to support consumers' purchasing power in the face of rampant inflation. CEE nations also ramped up their defence spending—with Poland announcing it would increase its defence budget to 3% of GDP—and launched initiatives to raise the NATO defence spending benchmark from 2.0% of GDP to 2.5–3.0%. 0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 -5 0 5 10 15 2021 2023 2025 2027 CEE Bulgaria Croatia Czech Republic Estonia Hungary Latvia Lithuania Poland Romania Slovakia Slovenia CEE: GDP Growth Evolution (%), 2021-2027 In 2023, the region is expected to post a marginal GDP expansion. Growth in most economies will slow tangibly from last year, with near-stagnant activity projected in regional heavyweights Hungary and the Czech Republic weighing heavily on the region. The Baltics will be among the worst performers, with Estonia and Latvia expected to contract. Consumption in 2023 will suffer from abovetarget inflation, restrictive financing conditions and deeply entrenched consumer pessimism. However, accommodative fiscal stances amid higher defence spending and tight labour markets across the region should support spending somewhat. Exports from CEE will be hit in 2023 by severed trade links with Russia and Belarus, compounded by an EU-wide slowdown given the region's integration in European markets. Nevertheless, growth prospects have improved in recent months thanks to the better-than-expected performance of the energy sector: A mild winter, lower global prices and import diversification have prevented the previously feared winter energy crunch. Even though the war in Ukraine

will continue in 2023, the negative impact of Russia's weaponization of energy trade should be manageable. The consequences of reduced Russian energy supply will shape economic policy over the upcoming years, as the CEE region augments its energy infrastructure and focuses on energy security. EU initiatives such as REPowerEU and inflows from the Recovery and Resilience Fund supported projects in this area.

An escalation of the war in Ukraine poses a major downside risk to the other economies. Further disruptions to agricultural and energy prices could strain household budgets and add pressure on government finances. The risk of the war spilling over Ukraine's borders also threatens investment prospects in the region. Additionally, colder-than-expected weather next winter could boost energy demand, causing price spikes, energy shortages and disruptions in gas reliant industries. On the flipside, renewed refugee inflows could support demand in the region, which, together with a resolution to the war, poses an upside risk to the outlook.

"The good news is that we no longer expect full-year recession [in CEE]. However, the 2023 growth is set to slow to 0.9% on average, due not only to underlying weakness, but also strong base effects. In 2023, private consumption will remain a factor dragging the growth down, while investment should be supported by the flow of EU funds." Comment Analysts at Erste Bank

"[Price] increases will remain elevated and above targets in the next two years. [...] However, inflation is likely to remain sticky in 2023 because it was not driven solely by surging energy prices in 2021- 2022 but also by rising food prices and higher core inflation." Comment by Andreas Jobst and Jordi Basco Carrera.

Analysts at Allianz say "Besides a more damaging conflict, the main risks for CEE in 2023 are the lack of a common European energy policy, a standoff between the European Commission and Hungary and Poland due to weak adherence to the rule of law, low reform appetite ahead of elections in Bulgaria, Poland, Slovakia and Turkey, a financial crisis in Turkey if monetary and fiscal policies are not tightened after

the elections, nationalist tensions in the Western Balkans, and Russia's deepening economic isolation."

Effect on Caucasus Economy :

The Caucasus economies have performed better than expected following the outbreak of the war in Ukraine. In 2022, GDP growth accelerated in Armenia and remained elevated by historical standards in Georgia and Azerbaijan. Momentum was underpinned by inflows of migrants—around 65,000 people in Armenia and 90,000 in Georgia—and remittances, which rose by 140% and 86% year on year, respectively, in the two aforementioned countries. Moreover, in order to circumvent sanctions, hundreds of Russian firms have reportedly relocated to the region, and trade between the Caucasus and Russia has soared. In addition, high prices for key regional commodity exports—oil in the case of Azerbaijan and copper in the cases of Georgia and Armenia—further supported activity.

These developments caused fiscal and current account positions to improve. On the flip side, all countries have faced soaring price pressures due to supply disruptions and robust domestic demand. Accordingly, all central banks in the Caucasus hiked interest rates after the war started. In geopolitics, the historical dispute between Armenia and Azerbaijan over Nagorno-Karabakh—a region internationally recognized as part of Azerbaijan but controlled by ethnic Armenians—escalated as a side-effect of the war. Russia—Armenia's main ally—has switched its focus to Ukraine, leading Azerbaijan to grow more assertive over the course of the year. Clashes between the two sides in September led to hundreds of deaths, and Azerbaijan allegedly blocked the Lachin Corridor linking Armenia to Nagorno-Karabakh in December.

On the flip side, growing dependence on Russia could be bad for long-term development given the potential ensuing difficulties with EU integration and Russia's tepid growth prospects. Moreover, the escalation of the Nagorno-Karabakh conflict poses a key downside risk to Armenia and Azerbaijan. A prolongation of the war in Ukraine would restrain Russia's capacity to mediate the conflict, strengthening Azerbaijan's position.

Effect on Central Asian Economy :

Despite most of the economic panellists initially are seeing Central Asian economies tumbling in the wake of the Russia-Ukraine war, they proved resilient; Kyrgyzstan and Tajikistan are even expected to have expanded at quicker rates in 2022 than forecast before the invasion. This situation was mostly driven by three factors: sky-high remittances, increased trade revenue and an inflow of Russian immigrants. Remittances were buoyed by the strength of the Russian ruble for much of 2022. For instance, in Q1– Q3, remittances rose year on year in Uzbekistan and Kazakhstan by 119% and 47%, respectively. Moreover, trade figures were boosted by higher prices for key regional exports such as energy and metals; in Q1–Q3, Kazakhstan's merchandise exports increased by 48% year on year.

The rerouting of Western exports via Central Asian economies to Russia to circumvent sanctions likely also aided the region's external sector. Regarding immigration, Central Asia saw two waves of arrivals: a smaller wave immediately after the war broke out and a larger one after the first Russian mobilization announcement in September. Hundreds of thousands of Russians reportedly entered Kazakhstan after mobilization, while official migration data says arrivals rose 57% annually. Meanwhile, news articles report that Kyrgyzstan and Uzbekistan have also been destinations of choice.

Effect on Balkan Economy :

One year after Russia's invasion of Ukraine, Balkan economies have fared better than initially projected. Nevertheless, the spill overs from the war have still dented economic activity across the region: Consumer prices have skyrocketed due to the energy crisis, industrial activity has worsened, business and investor confidence have tumbled, and ailing EU demand has dented exports growth. Similarly, to the rest of Europe, the Balkans— especially Bosnia and Herzegovina, North Macedonia and Serbia— were heavily exposed to disruptions in Russian energy exports at the outset of the war. This pushed inflation up

to double digits in most countries, prompting the imposition of states of emergency and energy subsidies in several countries. Serbia—which has long had warm ties with Russia and counts on Moscow's support regarding the Kosovo dispute—continues to import gas from Russia, but has stopped oil imports in line with EU sanctions. More positively, the war has boosted regional cooperation. Regional energy diversification projects have begun, boding well for long-term energy security in the Balkans. Moreover, the Open Balkans initiative between Albania, North Macedonia and Serbia gained traction last June with the signing of agreements on topics such as tax evasion and recognition of qualifications; more countries could join the initiative in the near term. Meanwhile, in December, the EU announced EUR 1 billion in financial assistance for the region, boding well for short-term growth.

Effect on Turkish Economy :

The Turkish economy was heavily affected by the war in Ukraine. Disruptions of energy and food prices stemming from the war contributed to 2022's record-breaking inflation figures. Moreover, a larger energy import bill pushed the country's current account deficit to its widest in nine years. The weakening of the lira due to unorthodox monetary policies exacerbated these factors. Coupled with a high base in 2021, this resulted in GDP growth more than halving in 2022. That said, Turkey managed to soften the blow to its economy by remaining relatively neutral in the conflict. Despite condemning the invasion, the country did not apply sanctions on Russia in 2022. On the contrary, trade between the two countries increased: Last year, imports from Russia rose by 103% as Turkey sought cheaper energy sources, while exports to Russia increased by almost 62%. Additionally, Turkey brokered the Black Sea Grain Deal in July 2022, which helped secure critical grain supplies for the country. Turning to this year, following pressure from the West, Turkey stopped the transit of Western-sanctioned goods to Russia in March.

Goutam Mukherjee

Dr. Goutam Mukherjee

Hony. Editor, JILTA



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Tell me and I forget, teach
me and I may remember,
involve me and I learn

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STAHL'S EMISSIONS REDUCTION TARGETS APPROVED BY THE SCIENCE BASED TARGETS INITIATIVE

Stahl, a leading provider of coating technologies, announces that its near-term greenhouse gas (GHG) emissions reduction targets have been validated by the Science Based Targets initiative (SBTi). Stahl is one of the few coatings companies to receive this validation. To date, 145 companies in the chemicals sector have submitted an emissions reduction target to the SBTi, of which 61 have had their targets validated.



Stahl's science-based targets, which reflect the company's commitment to the 2015 Paris Agreement goals, are:

- Stahl Holdings B.V. commits to reduce absolute scope 1 & 2 GHG emissions 42.0% by CY2030 from a CY2021 base year.
- Stahl Holdings B.V. commits to reduce absolute scope 3 GHG emissions 25.0% by CY2030 from a CY2021 base year.

The SBTi classifies emissions reduction targets according to two potential temperature pathways: 1) limiting global temperature rises to 1.5°C above pre-industrial levels, and 2) limiting temperature rises to well below 2°C. The SBTi has determined that Stahl's Scope 1 and 2 target is in line with a 1.5°C trajectory, while Stahl's Scope 3 target has been validated in line with the well-below 2°C pathway.

Maarten Heijbroek, CEO of Stahl: *"The validation of our Scope 1, 2, and 3 emissions reduction targets by the SBTi is an important milestone on our ESG journey as we strive to limit our contribution to global warming, in line with the Paris Agreement. Our targets are ambitious, and rightly so. Realizing our goal to help create a more responsible coatings value chain starts with being accountable for our own environmental impact, and taking concrete steps to reduce our emissions wherever possible."*

A clear strategy to reduce GHG emissions

Stahl's approach to realizing its near-term emissions reduction targets is outlined in the company's Environmental, Social, and Governance (ESG) Roadmap to 2030. This strategy defines the specific metrics against which progress on the company's ESG commitments will be measured.

Stahl's Scope 1 and 2 GHG emissions reduction targets, as submitted to the SBTi, cover emissions from all manufacturing sites where Stahl products are produced, as well as the company's largest non-manufacturing locations. Stahl aims to lower these emissions by reducing its overall energy consumption and increasing the use of renewable energy at its sites. To achieve this, the company plans to increase its self-generated electricity capacity (using solar power, for example) and continue investing in more energy-efficient equipment.

Stahl plans to reduce its Scope 3 upstream emissions primarily by replacing fossil-based raw materials in its products with renewable alternatives, such as bio-based and recycled-based feedstocks. In addition, the company plans to introduce more low-impact raw materials into its product design.

About the Science Based Targets initiative

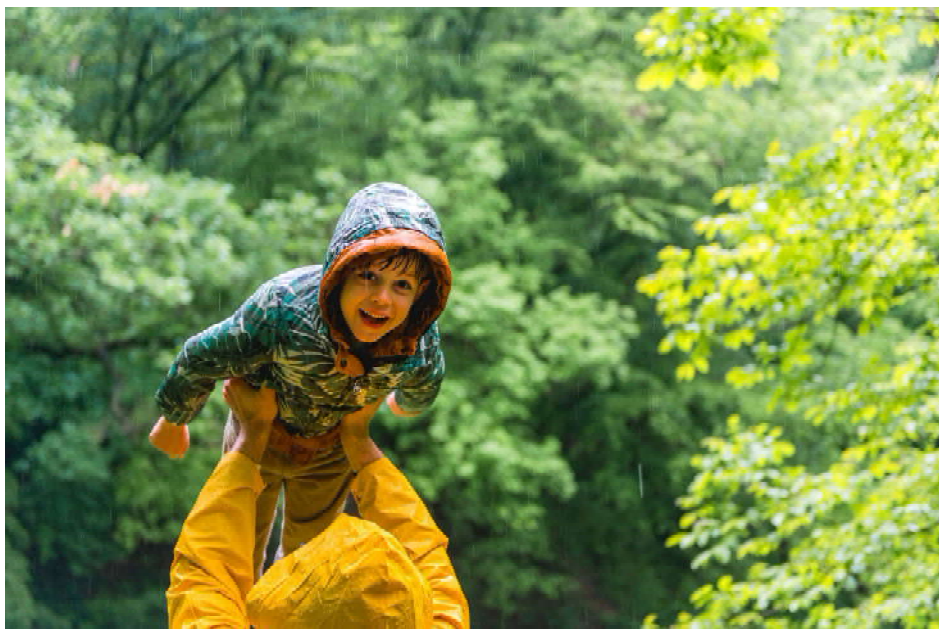
The Science Based Targets initiative is a global body with the goal of enabling businesses to set ambitious emissions reduction targets in line with the latest climate science. It is focused on accelerating the efforts of companies worldwide to halve emissions before 2030 and achieve net-zero emissions before 2050. The initiative is a collaboration between the CDP, the United Nations Global Compact, World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).

More information about the steps Stahl is taking to realize its climate ambitions and broader ESG strategy can be found in the company's 2022 ESG Report, available online <https://esg2022.stahl.com/esg-report-2022/start>.

(Stahl News – 03/05/2023)

STAHL OUTLINES PROGRESS ON ENVIRONMENTAL, SOCIAL, GOVERNANCE AMBITIONS IN 2022 ESG REPORT

Stahl, a leading provider of coating technologies, has published its 2022 Environmental, Social, and Governance (ESG) Report. The report, which shares its title with Stahl's new purpose –Touching lives, for a better world!– details the company's recent progress against its mid-term ESG 2030 targets and broader ESG ambitions. The report is available to view as a fully digital version.



Stahl's 2022 ESG Report is the 10th edition of the publication, which aims to provide stakeholders with a clear understanding of the

company's ESG strategy, goals, and activities. In 2022, Stahl took steps to strengthen its non-financial reporting, including preliminary efforts to address the requirements of the Corporate Sustainability Reporting Directive (CSRD), a forthcoming EU regulation. Stahl has established a project team to gain a better understanding of double materiality, governance elements, and other ESG disclosures related to the CSRD.

Demonstrable progress against Stahl's ESG targets

A key focus of the report is Stahl's ESG Roadmap to 2030, a list of ESG-related commitments and targets aligned with the UN Sustainable Development Goals (SDGs). The roadmap uses metrics to track Stahl's progress against its targets, which are based on a set of clearly defined environmental, social, and governance topics.

These targets include reducing greenhouse gas (GHG) emissions. In 2022, the CO₂e intensity of Stahl's Scope 1 and Scope 2 GHG emissions fell by 3%. This followed a decrease of more than 30% in the company's Scope 1 and 2 emissions in absolute terms between 2015 and 2020. During the year, Stahl also submitted a new Scope 3 target to the Science Based Targets initiative (SBTi), with the aim of reducing its upstream emissions by at least 25% by 2030 (2021 baseline). Scope 3 GHG emissions cover all the additional indirect emissions that may occur in the value chain, including those associated with purchased raw materials, packaging, business travel, logistics and transportation, and dealing with end-of-life products. Stahl's Scope 3 emissions currently represent over 90% of its carbon footprint.

EcoVadis Platinum rating

In 2022, Stahl received an EcoVadis Platinum rating, placing it in the top 1% of companies assessed by the globally renowned EcoVadis sustainability rating platform. By achieving the highest possible rating, Stahl has surpassed its ESG Roadmap goal of achieving a Gold rating by 2023. Stahl's commitment to the EcoVadis process also extends to its supply chain. 83% of the company's raw material spend came from EcoVadis-rated suppliers, and Stahl aims to ensure that all EcoVadis-rated suppliers in its network achieve a minimum rating of 47/100 by 2030.

Safe and supportive work environment

Stahl's 2022 ESG report also details the company's efforts to support the physical and mental well-being of its employees, forming a core pillar of its ESG approach. For instance, Stahl's Roadmap to 2030 includes a target to have all Stahl manufacturing sites ISO 45001-certified¹ by 2030 (59% of Stahl's products were produced at ISO 45001-certified sites in 2022). In addition, Stahl has taken steps to increase employee engagement and strengthen its diversity, equity, and inclusion (DEI) culture and vision. This has included defining and implementing local DEI plans in each of Stahl's legal entities worldwide and appointing local DEI committees for each entity. As part of this effort, Stahl is committed to improving gender equality and the representation of women throughout the organization. To this end, it has set a target to achieve 30-60% female representation across the company's Leadership Team, Extended Leadership Team, and heads of function.

Maarten Heijbroek, CEO of Stahl: "2022 was my first full year as CEO, and I am proud to say that it was a year of progress, as we continued to build momentum toward the goals set out in our ESG Roadmap to 2030. It was a year of significant milestones, including the announcement of our new Scope 3 greenhouse gas emissions target and our EcoVadis Platinum rating, to name a few. While we still have a long way to go to become the responsible organization we aspire to be, each year we touch more lives, as we work with our partners to create a better world."

(Stahl News – 22/03/2023)

STAHL COMPLETES ACQUISITION OF ICP INDUSTRIAL SOLUTIONS GROUP

Stahl, a provider of coatings technologies headquartered in the Netherlands, has completed the acquisition of ICP Industrial Solutions Group (ISG), a leader in high-performance coatings for packaging and labeling applications. The acquisition reinforces Stahl's position as the global leader in the field of specialty coatings for flexible substrates.

ICP Industrial offers a comprehensive portfolio of high-performance coatings used primarily in packaging and labeling applications, notably in the food and pharmaceutical sectors. ICP Industrial is primarily active in North America (close to 70% of sales), where it is a recognized technical leader. It also operates in Europe, under the "Hi-Tech Coatings" brand name.

In addition to enhancing Stahl's product offering and manufacturing capabilities, the acquisition stands to strengthen the company's environmental, social, and governance (ESG) leadership position. The integration of ICP Industrial coating technologies (water-based and energy-cured[1]) will enable Stahl to support customers in their transition to more sustainable packaging.



With ICP Industrial reporting sales of approximately USD 140 million in 2022, the acquisition will bring Stahl's annual sales beyond the EUR 1 billion mark, with an EBITDA margin above 20%.

Maarten Heijbroek, CEO of Stahl: *"Completing this important strategic acquisition is an important milestone for our organization. Stahl and ICP Industrial's product focus and technologies are highly complementary, and the acquisition will enhance our growth profile, diversify our target markets, and broaden our technology base. Moreover, integrating ICP Industrial's expertise and range of innovative low-impact solutions into our portfolio will add further value to our stakeholders as we work to create a more sustainable coatings value chain."*

(Stahl News – 16/03/2023)

STAHL TO STRENGTHEN AND DIVERSIFY SPECIALTY COATINGS ACTIVITY WITH ACQUISITION OF ICP INDUSTRIAL SOLUTIONS GROUP

Stahl, a provider of coatings technologies headquartered in the Netherlands, has agreed to acquire ICP Industrial Solutions Group (ISG), a leader in high-performance packaging coatings. This transaction will strengthen Stahl's position as the global leader in the field of specialty coatings for flexible materials.

ISG, a division of Innovative Chemical Products (the ICP Group), offers a comprehensive portfolio of high-performance coatings used primarily in packaging and labeling applications, notably in the resilient food and pharmaceutical sectors. ISG is mostly present in North America (close to 70% of sales), where it is a recognized technical leader. ISG's coating technologies support the transition to more sustainable packaging which will be enhanced by Stahl's environmental, social and governance (ESG) leadership position. ISG is expected to report 2022 sales of approximately USD 140 million, and the acquisition will bring Stahl's annual sales beyond the EUR 1 billion mark, with an EBITDA margin above 20%.

Stahl has secured a new financing of \$580 million for the acquisition, with a group of relationship banks, extending maturities until 2028. It will also be available to refinance its existing credit facilities and fund future external growth, with a focus on specialty coatings. Maarten Heijbroek, CEO of Stahl: *"ISG is a strong strategic fit for Stahl, given the complementary nature of our business models, technologies, and footprints. The acquisition will enhance Stahl's growth profile, diversify our target markets, and broaden our technology base. Specialty coatings now represent approximately 75% of group sales. We are excited about this opportunity and look forward to welcoming the excellent ISG team into the Stahl family."*

The transaction is expected to close before the end of Q1 2023, subject to customary conditions.

From the desk of **General Secretary**



73RD FOUNDATION DAY CELEBRATION OF ILTA

ILTA will celebrate its 73rd Foundation Day and organize Prof. B. M. Das Memorial Lecture as scheduled every year on 14th August' 2023.

Details of the event will be intimated in due course.

65TH ANNUAL GENERAL MEETING

The 65th Annual General Meeting is likely to be held at any time of September' 2023. Audit of the accounts for the FY 2022 – 23 is supposed to be started from mid of June.

Details of the meeting will be intimated in due course.

SEMINARS & SYMPOSIUMS

ILTA is planning to organize few seminars and symposiums (Online / Offline) on Leather Science & Technology by next few months. If it can be possible to organize, will let you inform in due course.

14TH ASIA INTERNATIONAL CONFERENCE ON LEATHER SCIENCE & TECHNOLOGY (AICLST)

ILTA is proposing to organize the 14th Asia International Conference on Leather Science & Technology (AICLST) in year 2026 at Kolkata, India.

If it is materialized, will intimate the details in due course.



(Susanta Mallick)
General Secretary

RECEIVING PRINTED COPY OF JILTA EVERY MONTH

We have started to post Printed copy of JILTA from April' 2022 to members and all concerned as it was before Covid period. Simultaneously we have been sending the e-copy of JILTA through email also to all the concerned receivers.

If you are not receiving JILTA by Post or through email, may please verify your Postal Address and/or Email Id with our office at the earliest.

PUBLISH YOUR TECHNICAL ARTICLE

Faculties, Research Scholars and students of various Leather Institutes may wish to publish their Research / Project papers in an Article form in this monthly technical journal, JILTA.

Interested author may sent their paper (in MS Word format) along with a PP Photograph and Contact details like Email, Mobile etc. to our email IDs : admin@iltaonleather.org / jiltaeditor@gmail.com

Members are requested to :-

- a) Kindly inform us your '**E-Mail ID**', '**Mobile No**', '**Land Line No**', through E-Mail ID: admin@iltaonleather.org or over Telephone Nos. : 24413429 / 3459. This will help us to communicate you directly without help of any outsiders like Postal Department / Courier etc.
- b) Kindly mention your **Membership No.** (If any) against your each and every communication, so that we can locate you easily in our record.

YOUTUBE CHANNEL & FACEBOOK PAGE OF ILTA

An official **YouTube Channel** namely **ILTA Online** and a **Face Book Page** namely **Indian Leather Technologists' Association** has been launched for sharing the activities of our Association since November' 2020 and July' 2021 respectively.

You may find all the Lives / Video recordings of different Seminar, Symposiums & Webinars on both of these social medias along with our website www.iltaonleather.org time to time.

You are requested to kindly do **Like & Subscribe** the YouTube Channel and "**Follow**" the FaceBook Page to get regular updates on the activities of our Association.

General Secretary and the Members of the Executive Committee are available to interact with members at 18.30 hrs, at our Registered Office on every Thursday



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With over 50 years of experience in developing sustainable solutions to make communities more resilient, Solidaridad has been working on many different issues, from supporting marginalized communities to fostering a more sustainable supply chain.



Castor



Tea



Sugarcane



Leather



Textile



Palm Oil



Aquaculture



Dairy



Fruits &
Vegetables



Gold



Soy



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Coffee



Livestock



Medicinal Plant

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**EFFECTIVE WASTE MANAGEMENT AND SUSTAINABLE
DEVELOPMENT OF MSME TANNING COMPANIES IN KOLKATA
LEATHER CLUSTER (BANTALA)**

2022-2023



PROJECT PARTNERS IN ASIA



Pradipta Konar, Programme Manager-Leather(Kolkata): pradipta.konar@solidaridadnetwork.org

Solidaridad Regional Expertise Centre

158/5, Prince Anwar Shah Road, Kolkata-700045 | Contact: 033-40602211, +91-9830279866

Multi Stakeholder Platform (MSP) on Leather Launched in Kolkata



Under the ambit of the European Union Switch Asia funded project '*Effective Waste Management and Sustainable Development of the MSME Tanning Companies in the Kolkata Leather Cluster (Bantala)*', Solidaridad intends to contribute to the green economy and facilitate transition towards a low-carbon, resource-efficient and circular economy in the MSME tanning sector in Kolkata by establishing scalable pilot demonstrations.



The project strives to create an enabling environment for efficient and effective public-private collaboration by establishing a platform comprising key stakeholders from government bodies, industries, technical institutions, knowledge partners and project partners. Throughout the execution of the project, all stakeholders have collaborated to introduce sustainable production practices and worked towards a common vision of sustainable upliftment of the Kolkata leather cluster.

Taking these initiatives forward, a Multi Stakeholder Platform (MSP) was launched on 2 March 2023 under the chairmanship of Council for Leather Exports (CLE works under the aegis of Ministry of Commerce & Industry) in the presence of Calcutta Leather Complex Tanners Association (CLCTA) members, knowledge partners, project stakeholders and industry veterans. The main objectives of the common platform are :

- To present the progress of the EU-funded project on a quarterly basis.
- To share the success stories as well as highlight the gaps and challenges for further improvements in the programme.
- To establish a uniform communication amongst all the stakeholders to ensure proven techno-economically viable interventions on pollution abatement are scaled up at the cluster level.
- The platform will be chaired by CLE and co-chaired by CLCTA to ensure it can sustain itself even after the ongoing project gets over.
- The platform will also help identify the complementary efforts made by government/other agencies to make Kolkata leather complex the leading leather geography in Asia.

The structure of the Multi Stakeholder Platform will be an amalgam of public-private-partnership with the following leading agencies and institutions from the leather industry :

Chair	Council of Leather Exports - CLE
Co-Chair	Calcutta Leather Complex Tanners Association - CLCTA
Convenor	Solidaridad
Participants	Government College of Engineering & Leather Technology - GCELT
	Indian Leather Technologists' Association - ILTA
	Indian Leather Products Association - ILPA
	Stahl
	Dugros
	Industry Leaders and Stakeholders

Taking advantage of the platform, the Kolkata project also organised a technical meet with Italian partner PISIE. In an interactive session, experts from PISIE and ILSA explained their approach to solid waste management, reutilization of waste, water purification and sludge treatment, which can be replicated in Indian leather geographies. A pictorial booklet showing project impact (with pre-and post-intervention of Solidaridad and partners) on effective waste management and sustainable development of the leather cluster was also launched.

Some key highlights of the programme :

Mr Pradipta Konar, Senior Programme Manager of EU-funded Kolkata project, initiated the launch of the platform by giving updates about the project, its achievements, progress, and initiatives undertaken.

Mr Zia Nafis, Joint Secretary, CLCTA welcomed everyone to the Multi Stakeholder Platform launch and said there is a strong need to adopt sustainable ways to utilize the solid waste.



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Solidaridad Corner

Mr Tatheer Zaidi, General Manager, Solidaridad Asia, mentioned the project has now spread to around 90 tanneries where at least one eco-friendly intervention has been implemented. With the help of partners, the project is trying to create win-win propositions for all the supply chain actors.

Mr Ramesh Juneja, Regional Chairman-ER, CLE and President, CLCTA, focused on learning ways to convert waste to wealth which will generate revenue and additional employment for the leather industry.



Mr Antonio Seminara, Tanning Technology Expert PISIE, delivered a brief presentation on industrial model for water purification and sludge drying in Lombardy through sustainable management of waste water and industrial waste.



Mr Daniele Foletto, Solid Waste Management and Reutilization Expert, PISIE, gave a brief presentation on engineering technology for solid waste transformation, industrial models for tannery solid waste management and transformation, and sustainable leather.

Mr Imran Ahmed Khan, General Secretary, CLCTA, said that sustainable development has to be adopted as a part of operations in tanneries, and only then can the platform achieve its ultimate goal of making Kolkata Leather Cluster efficient and green.

Mr Prasanna Maduri, Campus Manager, Stahl India Pvt. Ltd, spoke about the bouquet of technologies introduced by Solidaridad, especially low salt tanning. Each tannery, he said, should adopt at least one technology to make tanning practices sustainable.



Post the launch of the platform, the stakeholders will meet once every quarter to set targets, discuss the learnings and key challenges, which will not only guide the project implementation process but also facilitate the scaling up of sustainable tanning/ leather production and waste management activities. The MSP will also support the SME tanneries to move these sustainable practices from demonstration to replication and broad-scale adoption (including availability of improved access to funding options), which will further support the sustainable growth of the leather cluster.

Uniform and effective communication established through the public-private partnership platform will help achieve the collective vision of turning Kolkata Leather

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industry into the leading leather geography in Asia, and further strengthen the competitiveness of the Kolkata leather industry in the international market, thereby making it a successful and sustainable flagship programme of Kolkata.



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Solidaridad Shines Bright on World Water Day Through its Innovation in Water Technology



On the eve of World Water Day on 22 March 2023, Solidaridad won the **'Water Sustainability Award' (2022-2023)** for “**innovation in water technology**” in its Leather portfolio.



The award, which Solidaridad won for a second time in a row, is given by TERI in collaboration with the Ministry of Jal Shakti, Government of India, International Water Association and United Nations Development Programme. Our leather team received the award from Kiran Bedi, Former Lt Governor, Puducherry; Bharat Lal (IAS), Director General, National Centre for Good Governance; Debashree Mukherjee, Special Secretary, Ministry of Jal Shakti, Government of India; Dr Vibha Dhawan, Director General, TERI; and S.K. Sarkar, Distinguished Fellow, TERI. Representing Team Solidaridad at the event were Tatheer Zaidi, General Manager, Solidaridad Asia along with Dipayan Adhikari and Satabdi Pratikshya.



CLC TANNERS ASSOCIATION
(We Care for the Environment)



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Solidaridad along with its project partners in all the three leather geographies in Kanpur, Kolkata and Chennai is working on water efficiency intervention programs which aim to reduce the overall effluent load discharge from the tanneries and enhance water resource efficiency. Interventions like use of desalting machine, retrofitting of fleshing machines by solenoid valve and limit switch, use of digital water flow meter for different operations in tanning practices, and weighing of leather pelts by digital weighing system have helped the industry in saving millions of liters of water.

Solidaridad

TATA INTERNATIONAL



Council for Leather Exports
चर्म निर्यात परिषद्



Netherlands Enterprise Agency



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117TH ALCA ANNUAL CONFERENCE, USA



The 117th ALCA Annual Convention, will be held at Grand Geneva Resort and Spa, Lake Geneva, Wisconsin, USA during June 20 - 23.

Carol Adcock, Executive Secretary, American Leather Chemists Association informs that plans are well underway for the 117th ALCA, The Annual Convention at the Grand Geneva Resort at Lake Geneva, Wisconsin. It will be held June 20 - 23. The convention brochure will be online within the next week and can be found on the website at www.leatherchemists.org.

(Source : IULTCS website)

A recent appointment at IULTCS has seen Dr Christine Anscombe step back from her role as Chairman of the IUL. Christine is replaced by Julian Osgood. The following is a short message from Julian





INTERNATIONAL UNION OF LEATHER
TECHNOLOGISTS AND CHEMISTS SOCIETIES
(www.iultcs.org)

Dear All,

I would like to take this opportunity to inform you of a recent change at IULTCS. The International Union of Liaison and Communication Commission (IUL) Chairman, Dr Christine Anscombe, after many years of dedicated service to the Society, has decided to take a step back from the role. The IULTCS committee has appointed me, Julian Osgood, as the new IUL Chairman. I will endeavour to continue the excellent work Christine has done for the society. I have had the pleasure to meet many of you in the past, but for the benefit of those who do not know me, the following is a brief résumé:

Julian Osgood. BSc, FSLTC:

I studied Leather Technology at the British School of Leather Technology in Northampton in the 1980s and have worked in the industry, all over the world, ever since. Currently I am working as a consultant for ATC Tannery Chemicals, France, but I actually live in Portugal. I have presented papers at many leather industry congresses and conferences over the years and written articles for some of our industry's magazines.

I am proud to now have the opportunity to work with the IULTCS and I will do my best to help the society to improve its ability to serve the industry.

My responsibilities as IUL Chairman are defined as follows:

- Establishing and maintaining a network of global contacts within the leather industry that have a legitimate interest in and an authoritative platform to express opinions on issues affecting the industry.
- Establishing and maintaining external media contacts for events or issues that may require an industry response.
- Pro-actively establishing and maintaining agreed "positions" on possible issues that may arise within or relating to the leather industry.
- Providing liaison services with the international leather media on activities and events that occur within the IULTCS.
- Improving the utilization of the IULTCS website, LinkedIn and Facebook accounts.

To help me maintain an UpToDate database of contacts, I would ask you all to let me know if you wish to be removed from this contact list?

Please feel free to contact me if I can be of any help with your involvement with the IULTCS?fl

Julian Osgood

IUL Chairman

(Source : IUL TCS website)

DETERMINANTS OF CONSUMER BUYING BEHAVIOUR : A STUDY OF FOOTWEAR MARKET IN KOLKATA

¹Dr. Dibyendu Bikash Datta, ²Prof.(Dr.) Sambaditya Raj

¹Associate Professor, Dept. of Fashion Management Studies, National Institute of Fashion Technology, Ministry of Textiles, Govt. of India, Salt Lake, Kolkata - 700 098, West Bengal, India

²Deputy Director, Amity School of Fashion Technology, Jaipur - 303 002, Rajasthan, India



Abstract

In recent years, footwear has emerged as a fashionable lifestyle item. It is more than just a foot protection device. Individual personality traits have been linked to footwear products. This research looks into the major factors influencing consumer buying behaviour for footwear purchases. Survey data was collected from Kolkata-based respondents, most of whom were youth. Factor analysis has been used to extract the factors using the principal component matrix. Four factors that affect consumer buying behaviour for footwear have been identified. These are economy, convenience, media, and reference groups.

Keywords : buying behaviour, footwear, customer satisfaction, quality, price, promotion

Introduction

Compared to the earlier era, when people walked barefoot in many parts of the world, footwear has become an essential item. The way Indian consumers view footwear has changed as a result of globalization. The rising income levels of Indian consumers have increased demand for branded footwear over time. Footwear demand has increased globally due to changing lifestyles, expanding economies, and growing public awareness of health issues, particularly in light of the Covid pandemic and the reopening of lockdowns. Instead of just being a necessity for daily living, footwear has evolved into a lifestyle item.

The footwear industry has seen significant growth and development due to the demand for trendy, fashionable, athletic, and sports shoes. Leather and non-leather footwear are the two leading footwear produced in India. Domestic markets play

a crucial role in propelling it. While leather footwear is one of India's most important exports, the non-leather footwear market offers immense growth potential.

The footwear sector is most impacted by current societal fashion trends, aside from the clothing industry. As consumers adopt healthier lifestyles, branded footwear has become more popular. This trend has been observed in cities across the country. Bata, Liberty, Khadim, Paragon, Ajanta, Relaxo, Metro, and Mirza International Ltd. are some of the prominent companies in the Indian footwear market. Competitors in the group include the global companies Nike, Reebok, Puma, Adidas, etc.

Globalization has resulted in the proliferation of footwear brands and increased competition to unprecedented levels. Indian retail is expanding quickly, and new players are entering this sector. After food, groceries, and apparel, footwear is the next sizeable retail segment, and the consumption of footwear is also massive in volume. In 2022, the footwear market forecasted \$23.73 billion in revenue. The footwear market is expected to expand at a compound annual growth rate of 6.77% during the forecast period 2022 to 2027. With a market volume of US\$16.62 billion in 2022, leather footwear will be the market's largest segment (Statista, 2022). Concerning global consumption, non-leather footwear accounts for 86% of the total volume. The report on the "Non-leather footwear industry in India" by the most awarded investment promotion agency in the world, Invest India, projects that by 2030, India will become the world's second-largest user and manufacturer of footwear (Nayyar et al., 2022).

Footwear Production Units in Kolkata

One of the first tanning and leather processing centers started in Kolkata. But Kolkata's organized leather shoe industry never

really took off. In the organized portion of the leather processing industry, businesses in Kolkata specialize in making leather goods, accounting for two-thirds of India's total export value of US\$ 4.87 billion. Bata, the pioneer of organized footwear manufacturing, had the most visible footwear manufacturing facility in Batanagar (near Kolkata), but it primarily manufactures industrial or non-leather footwear. Organized firms produce rubber slippers, ethylene-vinyl acetate (EVA) slippers, polyvinyl chloride (PVC) shoes, rainwater shoes, and other low-cost non-leather footwear. Firms such as Ajanta Shoes and Khadims dominate this segment at all levels in India. These manufacturing facilities serve the most significant domestic market. Manufacturing of leather-like footwear or synthetic leather is concentrated in 4500 odd small and tiny industries. Even in the winter, the temperate climate of India's eastern and southern regions does not necessitate the wearing of shoes. These units produce primarily at the low end for the domestic market.

The small Kolkata units are artisan-based, with the majority being home-based date back more than two decades. Nine-tenths of all units are family-owned or sole proprietorships, with the remainder being partnerships. Only half of the units were legally established, as evidenced by trade licenses issued by local authorities. The cluster is almost entirely male-dominated. The main reason is that most producers are historically migrant workers from neighboring states Bihar and Jharkhand, and their social backgrounds reflect their artisan roots, as the majorities are Chamars, the traditional cobbler caste. They have low education levels and began as apprentices at home or neighboring units before opening their own units.

Chappals (slippers) are less complicated to make than complete footwear. As a result, the skill level of artisans and major chappal-making activities is lower than that of finished shoes. Workers employ simple traditional tools, and all processes are performed manually. The various footwear occupations are sole making, upper making, stitching, fitting, finishing, and stamping. Some workers also specialize in embroidery and making paper slipper designs. Production is carried out by three workers in family businesses or small businesses: the sole-man, the upper-man, and the finish-man (mostly low-skilled helper). Job work includes stitching work that requires a sewing machine and finishing work on soles that requires a grinding machine. Production is done by five artisans in larger units, whereas this outsourced work is done within the production unit. Finishing work in these units also includes stamping work for branded products. Scaling up units entails duplicating this production

process with no technological advancement. There are two peak seasons: (i) the pre-festival season, which runs from August to October, and (ii) the pre-summer season, which runs from February to March. Firms are classified based on output size into three groups: less than 200 pairs per week, 200 to 500 pairs per week, and more than 500 pairs per week. Employment size varies greatly between peak and slack seasons and production (Satyaki, 2009).

Be it daily wear sneakers and sandals or fancy boots and brogues, all are available in markets across Kolkata. They are affordable and super comfortable. Finally, the survival and growth of small firms depend on their ability to carve out their market niche through superior ability to cater to customers' unique needs. This paper investigates the factors that influence consumer footwear purchasing decisions in the city of Kolkata.

Literature Review

In India, 60% of the population is between the ages of 15 and 59. The middle-income group is growing in India. Because of the changing income levels, consumption patterns and buying behaviour are also changing. Demand for fashion accessories and other luxurious products is increasing daily. Also, there is a cultural shift in India because of the media and the entry of multinational companies. People are moving toward western culture. While making purchase decisions regarding footwear, consumers are affected by many factors: price, discounts, comfort, durability, brand name, sales promotional schemes, etc. Also, consumers are influenced by store location, ambience, and salesman behaviour when making purchases.

A consumer's selection of shoes has been influenced by footwear attributes (Banerjee et al., 2014). Previous literature shows consumers prioritize color and style compared to other factors when buying shoes (Mehra, 2017). The purchase decision gets influenced by the style, comfort, color, and price (Deb et al., 2018). Footwear companies influence customers' perceptions of quality by linking their brand to quality (Heding et al., 2020). Customer satisfaction depends on the quality (Singh, 2016). Consumers' decisions are influenced by brand awareness (Keller, 1998). The value of brands lies in the unique and creative design, the quality, the durability, and the status they convey.

Branding is essential for product differentiation and demanding premium prices in a highly competitive market like the footwear

industry (Anand and Alekya, 2015). A significant contribution to brand equity is believed to be made by brand awareness, brand image, perceived quality, and brand association (Menon, 2021). Brand loyalty, preference, and willingness to pay premium prices positively affect consumer response behaviour. Consumers' choices for shoes are influenced by several factors, including the social responsibility activities adopted by the company, the quality, and the product's durability (Mohan, 2014; Achabou, 2020). The choice of footwear goods was found to be significantly influenced by brand awareness and peer influence (Brakus et al., 2009; Khanna and Bajaj, 2017). In previous literature, brand equity has been identified as a major influence on footwear purchase intentions (Arshad and Victor, 2020). Certain studies discussed how brand loyalty and perception are related when choosing branded footwear in India (Gupta and Tandon, 2018). The four general buying decision criteria are comfort, aesthetics, perspiration, and belief. The main differences between comfortable and uncomfortable shoes are tactile (size, texture, inside footwear climate, and feeling inside the footwear), olfactory (unpleasant odors), and auditory (sound produced) senses (Au and Goonetilleke, 2007). When exercising or for work, daily footwear must be sturdy and comfortable. On the other hand, fashionable footwear must have exotic and unique materials (Ekambaram and Arora, 2021).

Research Objective

This study seeks to identify the factors influencing consumer buying behaviour for footwear.

Research Methodology

The study population comprises respondents from Kolkata, West Bengal. A sample consisting of 240 respondents was selected based on convenience sampling. The data was collected personally with the help of a well-structured and non-disguised questionnaire. After scrutinizing, 225 were found suitable for analysis. The study was done during June 2022 – September 2012. Microsoft Excel for Windows, along with Statistical Package for Social Sciences (SPSS), has been used to apply various statistical tests for data analysis.

Results and Discussion

Factor analysis has been applied to determine the variables that affect consumer buying behaviour while purchasing footwear.

KMO and Bartlett's Test

Kaiser Mayer Oklin (KMO) Measures of Sample Adequacy and Bartlett's Test of Sphericity value showed that data was fit for factor analysis. KMO Measure of Sampling Adequacy for individual variables was found to be sufficiently high for all variables and was found to be 0.825, indicating that the sample was good enough for sampling. Bartlett's Test of Sphericity showed statistically significant correlations among the variables (approximate Chi-Square = 1724.971, degree of freedom= 78, significance=.000). All the above standards indicate that factor analysis can be used for this data.

Table 1: The value of Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.825
Bartlett's Test of Sphericity	Approx. Chi-Square	1724.971
	df	78
	Sig.	.000

Principal Component Analysis

Table 2 displays the total variance principal component analysis used for extracting factors. The latent root criterion (factors with an eigenvalue greater than 1) was used for finalizing the number of factors. The factor loadings pattern and percentage of variance for each of the factors have been derived using 'Orthogonal Varimax Rotation.' An orthogonal Varimax Rotation method minimizes the number of variables with high loadings on each factor. Table 2 shows that four factors have eigenvalues that exceed 1, and approximately 75% of the variance can be explained by four factors. After extracting, these factors have been given names depending upon the variables constituting the factors.

The factor solution was derived from the Orthogonal Varimax Rotation of the thirteen variables listed for the purpose of the study. The rotation is intended to reduce the number of factors on which the variables under investigation have high loadings. Rotation does not change anything but makes the interpretation of the analysis easier. Four factors have been taken depending on Eigenvalues and variance explained by each factor. Factor 1 consists of sales promotion schemes, price, quality, guarantee, and durability because these factors have the highest factor loading in component 1. Factor 2 consists

of location, type of store, in-store display, ambiance, and helpful sales assistance because these factors have the highest factor loading in component 2. Factor 3 consists of brand image and status symbol, and advertisement because this factor

has the highest factor loading in component 3. Factor 4 consists of the reference group with the highest factor loading in component 4. Table 4 represents the statement labels, factor loading, and the names of the factors.

Table 2: Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	1.481	11.393	11.393	1.481	11.393	11.393	3.211	24.703	24.703
2	5.806	44.658	56.051	5.806	44.658	56.051	3.637	27.976	52.679
3	1.376	10.584	66.635	1.376	10.584	66.635	1.466	11.274	63.953
4	1.068	8.214	74.849	1.068	8.214	74.849	1.417	10.897	74.850
5	0.686	5.277	80.126						
6	0.590	4.541	84.667						
7	0.417	3.206	87.873						
8	0.382	2.942	90.815						
9	0.237	1.821	92.636						
10	0.466	3.588	96.224						
11	0.172	1.325	97.549						
12	0.192	1.477	99.026						
13	0.127	0.974	100.000						

Extraction Method : Principal Component Analysis

Extraction Method : Principal Component Analysis.

Based on Table 3, we can determine what factors establish the new factor based on the highest factor loading in each component.

Rotation Method: Varimax with Kaiser Normalization.
Rotation converged in 5 iterations.

Table 3: Rotated Component Matrix

Factor	Component			
	1	2	3	4
Sales Promotion Schemes	.832	.117	.161	-.025
Price	.870	.221	.004	-.031
Quality	.787	.227	.160	.083
Guarantee	.741	.304	-.170	.207
Durability	.608	.518	.020	.172
Location	.078	.817	-.023	.176
Type of Store	.270	.722	.076	-.126
In-store Display	.403	.704	.150	.369
Ambiance	.543	.647	-.253	-.005
Helpful Sales Assistance	.270	.759	.294	.205
Brand Image and Status Symbol	.193	.021	.728	.477
Advertisement	-.036	.128	.819	-.295
Reference Group	.035	.202	-.074	.892

Table 4: Naming of the factors

Factor	Factor	Loading
Economy	Sales Promotion Schemes	.832
	Price	.870
	Quality	.787
	Guarantee	.741
	Durability	.608
Convenience	Location	.817
	Type of Store	.722
	In-store Display	.704
	Ambiance	.647
	Helpful Sales Assistance	.759
Media Effect	Brand Image and Status Symbol	.728
	Advertisement	.819
Reference Group	Reference Group	.892

The bases of underlying statements representing these factors have been briefly defined as follows:

- a) **Economy:** Humans have limited resources, which means all strive to maximize utility with these resources. So the economy is one of the respondents' most important factors when buying footwear. Consumers are looking for quality and durable products within a limited price range. Moreover, they prefer to shop for footwear at a discounted price through some sales promotion schemes. Furthermore, respondents expect some sort of guarantee on footwear.
- b) **Convenience:** Location of store and distance of store from the residence are also important; when consumers purchase footwear. Consumers prefer to visit stores where salespeople are helpful. The store's ambiance and the way footwear is displayed also play an important role when buying footwear.
- c) **Reference group:** The reference group is important when buying footwear because the professional role, social group, cultural group, and religion affect the personality and respect in the society.
- d) **Media effect:** Respondents are also affected by the media content. Advertising in different media attracts consumers to the product. Also, the brand image that a particular brand carries directly influences the buying decision.

Findings

Based on the study results, it is evident that a variety of factors influence women's footwear buying behaviour. These factors include price, sales promotion schemes, quality, durability, guarantee, store location, ambiance, sales assistance, media, and reference group. These variables have been classified under four factors: economy, convenience, reference group, and media effects. The reference group, price, and sales promotion schemes carry the highest factors loading these variables. These three factors are most important when women consumers purchase footwear. Durability is the lowest factor loading, meaning purchasing footwear is less important. The reason may be that in the present era, fashion changes very quickly. Accordingly, women consumers tend to buy again and again.

Conclusions

Reference groups, price ranges, and sales promotion schemes are the most important factors when purchasing footwear. It implies that before setting prices, managers should consider the price range the target audiences are willing to pay. Changing fashion means consumers need to buy footwear more frequently, which makes durability less important when shopping for footwear. So if footwear marketers want to increase their sales quickly, they should use value-based pricing. A strong reference group influences the purchasing behaviour of women in the footwear industry; therefore, marketers need to attract opinion leaders by giving them special offers. While designing their advertisements, they should take into account celebrities who are liked by the target group. Also, the respondents prefer sales promotion schemes, so marketers should design attractive sales promotions to enhance their sales and turnover.

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ANNEXURE – I

ANALYSIS–INDIA’S EXPORT PERFORMANCE OF LEATHER, LEATHER PRODUCTS & FOOTWEAR DURING APRIL-FEB. 2022-23 VIS-À-VIS APRIL- FEB. 2021-22.

As per officially notified DGCI&S monthly export data, the export of Leather, Leather products & Footwear for the period **April-February 2022-23 touched US \$ 4875.56 Mn** as against the performance of **US \$ 4401.20 Mn in April-February 2021-22**, recording growth of **10.78%**. In rupee terms, the export touched **Rs.390390.95 Mn in April-February 2022-23** as against **Rs. 327322.47 Mn in April-February 2021-22**, registering a growth of **19.27%**.

EXPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR FROM INDIA DURING APRIL-FEB. 2022-23 VIS-À-VIS APRIL-FEB. 2021-22

(Value in Million Rs)

CATEGORY	APR - FEB 2021-22	APR - FEB 2022-23	% VARIATION	% Share 2021-22	% Share 2022-23
FINISHED LEATHER	30598.7	31133.51	1.75%	9.35%	7.97%
LEATHER FOOTWEAR	137284.48	177324.46	29.17%	41.94%	45.42%
FOOTWEAR COMPONENTS	16910.44	21432.88	26.74%	5.17%	5.49%
LEATHER GARMENTS	23872.5	26684.06	11.78%	7.29%	6.84%
LEATHER GOODS	86519.77	96406.34	11.43%	26.43%	24.69%
SADDLERY AND HARNESS	18651.76	16614.7	-10.92%	5.70%	4.26%
NON-LEATHER FOOTWEAR	13484.82	20795	54.21%	4.12%	5.33%
TOTAL	327322.47	390390.95	19.27%	100.00%	100.00%

Source : DGCI & S

(Value in Million US \$)

CATEGORY	APR - FEB 2021-22	APR - FEB 2022-23	% VARIATION	% Share 2021-22	% Share 2022-23
FINISHED LEATHER	411.52	389.1	-5.45%	9.35%	7.98%
LEATHER FOOTWEAR	1845.85	2213.96	19.94%	41.94%	45.41%
FOOTWEAR COMPONENTS	227.42	267.25	17.51%	5.17%	5.48%
LEATHER GARMENTS	321.19	332.99	3.67%	7.30%	6.83%
LEATHER GOODS	1163.21	1204.63	3.56%	26.43%	24.71%
SADDLERY AND HARNESS	250.86	207.96	-17.10%	5.70%	4.27%
NON-LEATHER FOOTWEAR	181.15	259.67	43.35%	4.12%	5.33%
TOTAL	4401.2	4875.56	10.78%	100.00%	100.00%

Source : DGCI & S

MONTHWISE INDIA'S EXPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR FROM APRIL 2022 TO FEBRUARY 2023

Export Value in Million US \$

COMMODITY	APRIL 2022	MAY 2022	JUNE 2022	JULY 2022	AUG 2022	SEP. 2022	OCT. 2022	NOV. 2022	DEC. 2022	JAN 2023	FEB 2023	TOTAL EXPORT APR-FEB. 2023
FINISHED LEATHER	42.73	37.44	38.53	34.49	36.54	35.18	31.99	34.75	35.3	29.93	32.22	389.1
LEATHER FOOTWEAR	192.66	201.54	220.18	244.49	218.9	207.77	171.58	187.47	201.97	197.28	170.12	2213.96
FOOTWEAR COMPONENTS	23.01	23.64	25.11	26.36	23.52	25.31	22.7	23.47	26.79	24.29	23.08	267.25
LEATHER GARMENTS	23.98	27.83	38.48	36.75	33.59	32.55	28.34	31.04	31.59	28.68	20.2	332.99
LEATHER GOODS	113.09	112.17	128.38	122.3	115.71	118.48	94.78	113.15	102.94	97.82	87.65	1204.63
SADDLERY AND HARNESS	20.27	21.84	23.72	23.72	20.74	20.02	17.8	12.79	17.26	15.74	14.04	207.96
NON LEATHER FOOTWEAR	23.69	23.49	26.76	26.84	24.87	24.91	23.17	21.96	19.9	21.72	22.38	259.67
TOTAL	439.43	447.95	501.17	514.97	473.87	464.24	390.36	424.63	435.75	415.46	369.69	4875.56

Source : DGCI & S

ANNEXURE – II

ANALYSIS—COUNTRYWISE EXPORT PERFORMANCE OF LEATHER, LEATHER PRODUCTS FOOTWEAR FROM INDIA

DURING APRIL-FEBRUARY 2022-23 VIS-A-VIS APRIL-FEBRUARY 2021-22

(Value in Million US \$)

COUNTRY	TOTAL		% CHANGE	SHARE IN TOTAL EXPORT	
	APR-FEB 2021-22	APR-FEB 2022-23		APR-FEB 2021-22	APR-FEB 2022-23
U.S.A.	1039.49	1102.38	6.05%	23.62%	22.61%
GERMANY	489.62	536.51	9.58%	11.12%	11.00%
U.K.	415.62	448.39	7.88%	9.44%	9.20%
ITALY	257.78	325.46	26.25%	5.86%	6.68%
FRANCE	252.27	262.71	4.14%	5.73%	5.39%
SPAIN	197.05	209.39	6.26%	4.48%	4.29%
U.A.E.	91.6	111.83	22.09%	2.08%	2.29%
NETHERLANDS	194.04	205.34	5.82%	4.41%	4.21%
HONG KONG	62.01	52.44	-15.43%	1.41%	1.08%
CHINA	125.49	137.98	9.95%	2.85%	2.83%
POLAND	74.49	74.43	-0.08%	1.69%	1.53%
BELGIUM	104.13	122.69	17.82%	2.37%	2.52%
SOMALIA	24.03	39.33	63.67%	0.55%	0.81%
VIETNAM	54.35	58.43	7.51%	1.23%	1.20%
AUSTRALIA	83.09	86.56	4.18%	1.89%	1.78%
PORTUGAL	53.36	65.87	23.44%	1.21%	1.35%
DENMARK	60.66	78.36	29.18%	1.38%	1.61%
KOREA REP.	35.41	43.39	22.54%	0.80%	0.89%

(Value in Million US \$)

COUNTRY	TOTAL		% CHANGE	SHARE IN TOTAL EXPORT	
	APR-FEB 2021-22	APR-FEB 2022-23		APR-FEB 2021-22	APR-FEB 2022-23
JAPAN	55.3	71.85	29.93%	1.26%	1.47%
RUSSIA	42.28	41.73	-1.30%	0.96%	0.86%
S. AFRICA	30.28	33.85	11.79%	0.69%	0.69%
CHILE	43.09	38.38	-10.93%	0.98%	0.79%
MALAYSIA	23.63	23.03	-2.54%	0.54%	0.47%
AUSTRIA	34.46	50.9	47.71%	0.78%	1.04%
CANADA	54.73	66.07	20.72%	1.24%	1.36%
SWEDEN	29.37	25.39	-13.55%	0.67%	0.52%
NIGERIA	14.96	14.57	-2.61%	0.34%	0.30%
INDONESIA	19.39	21.74	12.12%	0.44%	0.45%
MEXICO	30.07	35.18	16.99%	0.68%	0.72%
SAUDI ARABIA	25.29	38.06	50.49%	0.57%	0.78%
KENYA	6.57	9.37	42.62%	0.15%	0.19%
SWITZERLAND	17.95	21.66	20.67%	0.41%	0.44%
SLOVAK REP	15.98	17.74	11.01%	0.36%	0.36%
HUNGARY	18.34	11.01	-39.97%	0.42%	0.23%
THAILAND	14.19	14.71	3.66%	0.32%	0.30%
BANGLADESH	15.72	15.61	-0.70%	0.36%	0.32%
FINLAND	13.08	17.64	34.86%	0.30%	0.36%
TURKEY	15.18	21.84	43.87%	0.34%	0.45%
ISRAEL	15.24	16.08	5.51%	0.35%	0.33%
CAMBODIA	5.29	7.56	42.91%	0.12%	0.16%
CZECH REPUBLIC	11.46	10.12	-11.69%	0.26%	0.21%
GREECE	5.71	8.36	46.41%	0.13%	0.17%
NEW ZEALAND	9.74	8.94	-8.21%	0.22%	0.18%
OMAN	5.8	8.01	38.10%	0.13%	0.16%
SRI LANKA DES	6.52	5.54	-15.03%	0.15%	0.11%
SINGAPORE	10.23	10.21	-0.20%	0.23%	0.21%
SUDAN	3.63	2.62	-27.82%	0.08%	0.05%
TAIWAN	6.12	6.17	0.82%	0.14%	0.13%
NORWAY	5.78	7.23	25.09%	0.13%	0.15%
DJIBOUTI	2.2	2	-9.09%	0.05%	0.04%
OTHERS	179.13	227	26.72%	4.07%	4.66%
TOTAL	4401.2	4875.56	10.78%	100.00%	100.00%

Source : DGCI & S

The Top 15 countries together account about 79% of India's total leather and leather products export during April-February 2022-23 with export value of us \$ 3839.95 Million.

ANNEXURE – V

ANALYSIS—COUNTRYWISE IMPORT PERFORMANCE OF LEATHER, LEATHER PRODUCTS & FOOTWEAR DURING APRIL-FEBRUARY 2022-23 VIS-A-VIS APRIL-FEBRUARY 2021-22

As per officially notified DGCI&S monthly India's Import Data, the Import of Raw Hides & Skins, Leather, Leather products & Footwear for the period April-February 2022-23 touched US \$ 1367.48 Million as against the performance of US \$ 1010.44 Million in April- February 2021-22, recording a growth of 35.34%.

INDIA'S IMPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR DURING APRIL-FEB. 2022-23 VIS-À-VIS APRIL-FEB. 2021-22

(Value in Million US \$)

CATEGORY	APR - FEB 2021-22	APR - FEB 2022-23	% VARIATION	% Share 2021-22	% Share 2022-23
RAW HIDES AND SKINS	26	30.88	18.77%	2.57%	2.26%
FINISHED LEATHER	358.54	418.46	16.71%	35.48%	30.60%
LEATHER FOOTWEAR	302.16	447.93	48.24%	29.90%	32.76%
FOOTWEAR COMPONENTS	28.24	32.82	16.22%	2.79%	2.40%
LEATHER GARMENTS	1.88	1.27	-32.45%	0.19%	0.09%
LEATHER GOODS	46.57	55.16	18.45%	4.61%	4.03%
SADDLERY AND HARNESS	2.8	3.15	12.50%	0.28%	0.23%
NON-LEATHER FOOTWEAR	244.26	377.82	54.68%	24.17%	27.63%
TOTAL	1010.44	1367.48	35.34%	100.00%	100.00%

Source : DGCI & S

MONTHWISE INDIA'S IMPORT OF LEATHER, LEATHER PRODUCTS & FOOTWEAR FROM APRIL 2022 TO FEBRUARY 2023

(Value in Million US \$)

COMMODITY	APRIL 2022	MAY 2022	JUNE 2022	JULY 2022	AUG 2022	SEP. 2022	OCT. 2022	NOV. 2022	DEC. 2022	JAN 2023	FEB 2023	TOTAL IMPORT APR-FEB. 2023
RAW HIDES AND SKINS	3.46	3.01	3.57	3.18	3.12	3.6	2.44	2.7	2.22	1.82	1.75	30.88
FINISHED LEATHER	46.52	44.99	47.89	40.76	46.21	36.36	36.73	32.26	30.64	27.29	28.88	418.46
LEATHER FOOTWEAR	29.94	32.71	43.57	41.36	50.53	51.45	37.8	37.42	47.16	40.44	35.83	447.93
FOOTWEAR COMPONENTS	2.63	3.88	2.97	4.12	3.38	2.69	4.87	2.04	2.31	2.02	1.91	32.82
LEATHER GARMENTS	0.05	0.05	0.06	0.11	0.09	0.11	0.07	0.15	0.26	0.22	0.1	1.27
LEATHER GOODS	4.51	4.61	3.73	4.98	4.5	5.59	5.9	4.81	6.17	5.28	5.08	55.16
SADDLERY AND HARNESS	0.28	0.25	0.37	0.33	0.23	0.23	0.33	0.55	0.06	0.22	0.31	3.15
NON LEATHER FOOTWEAR	27.9	27.2	38.32	40.02	46.58	35.63	32.83	29.09	29.88	38.01	32.56	377.82
TOTAL	115.29	116.7	140.49	134.86	154.64	135.66	120.97	109.02	118.69	115.3	106.42	1367.48

Source : DGCI & S

ACE THIS WEDDING SEASON WITH ETHNIC LEATHER BAGS FROM ALIKA CRAFTS!!!



As the wedding season of summer is on, it's time to ditch the usual designer bags for locally handcrafted authentic leather bags. For one's who embrace minimalistic fashion with traditional designs, look no further than Alika Crafts.



Attending elaborate Indian weddings is always fun when we are dressed our best! We all know that "Accessories can make or break your look". A carefully picked accessory can truly make you stand out and grab attention of everyone around. Individuals are relentlessly seeking different ways to showcase their individuality and express themselves through uniquely crafted accessories. A beautiful handcrafted Leather bag can complete and elevate your outfit from good to elegant.

As the wedding season of summer is on, it's time to ditch the usual designer bags for locally handcrafted authentic leather bags. For one's who embrace minimalistic fashion with traditional designs, look no further than Alika Crafts. All their products are one-off original works by artisans, lovingly crafted and exquisitely detailed to reflect the rich heritage of Indian culture. Each and every piece of work is extensively researched by really knowing the artisans, stories behind their creations and its provenance. They offer a variety of bags like Tote Bags, Baguette Bags, Saddle Bags, and Box Sling Bags etc.



You can shop the collection through their website <https://www.alikacrafts.com>

Consumers are getting conscious of their choices and want to understand the story behind the products that they use. Apart from Alika Crafts making a true impact on the lives of the artisans that they work with, there are other reasons persuading consumers to purchase Leather bags from Alika Crafts.

1. A gateway to invest in the future of artisan community. There is very little knowledge and understanding of the traditional craft practiced by artisans of India. Each state has its own handwork, technique and style of leather craft which is reflected in the products created by the artisans. In order to increase the appreciation and ensure wider adoption of their trade and talents in India, Alika Crafts wants to increase the visibility and awareness of the leather craftworks made by these artists.
2. It's an embodiment of Indian Heritage. The designs of the bag are influenced by the materials available in their region of origin. They offer a variety of bags among which few have block printed Ajrakh and leather as a combination in the design. There are few which are embossed by hands in traditional manner using wooden block while few bags have been hand tooled by the artisans. Each bag has a story to communicate and reflects the culture of its region and has an artistic legacy attached to it. As the designs of the bags are dependent on the availability of materials to artisans and not made in bulk, they are at times limited in edition. The bag designs offered by Alika Crafts will outlive the passing trends and will be investment to cherish for long.
3. A majority of leather brands/players which sell handcrafted leather goods have priced the products at a premium. This has resulted in these craftworks being adopted by a very

niche segment of consumers. Alikra Crafts as a platform is doing the best to offer quality handcrafted leather products to consumers at a very competitive price to ensure wider adoption, all the while making certain that a fair price is passed on to the artisans.

At the moment, Alikra Crafts is offering Leather bags made by artisans from 5 states of India. They are working to on-board many more artisans from other regions in the coming days. They work with the artisans in understanding their classic design patterns and retain the traditional structure, while making sure that the bag designs are adapted to suite the urban taste too. At present, they have taken a conscious call to be available online, with a branded showroom coming soon in the future.

(outlookindia.com – 19/04/2023)

LEATHER GOODS MARKET IS PROJECTED TO REACH AT A US\$ 764.81 BILLION BY 2033



The global leather goods market is predicted to register a CAGR of 5.6% over the forecast period, as per FMI's analysis. The industry's size is anticipated to increase from US\$ 443.52 billion in 2023 to US\$ 764.81 billion by 2033 end.

Growing demand for high-end fashion, along with evolving fashion and trends, is pushing the demand for leather goods. These products have high quality and are long-lasting in nature. Due to their traditional and cultural significance, these products are gaining widespread demand among high-income household groups.

The leather goods industry is taking a sustainable turn by introducing eco-friendly products in the market. By doing so, the companies are attempting to capture an environmentally-conscious consumer base who are keen on purchasing products that align with their innate.

Surging domestic as well as international tourism is also supporting the growth of the leather goods industry. Designers across the globe exhibit new apparel via fashion shows and events, which is luring many customers toward leather clothing. The high significance of such events and the extensive utilization of leather apparel for several design techniques are expected to boost market growth.

Find a comprehensive report summary that describes the market size and forecast along with the research methodology. The Sample report is available in PDF format @ <https://www.futuremarketinsights.com/reports/sample/rep-gb-16996>

Top Highlights from the FMI's Analysis of the Leather Goods Market :

- The genuine leather segment significantly contributed toward market growth in the historical period, accounting for 54.1% market share in 2022. Surging demand for premium leather, especially in developed regions like North America and Europe, is expected to support segment growth in the years to come.
- Growth of the synthetic leather segment is expected to result from the increasing demand for less-expensive options to fulfill garment requirements by low- or middle-income groups.
- The footwear segment is expected to account for 44% of the market share, on the basis of product. Leading competitors such as Adidas, Reebok, and Nike, are actively engaged in increasing their capacity, in order to meet the expanding demand for footwear. Thus, pushing the segment growth.
- North America represented a total of 37% of the market share in the historical period. The region is also expected to continue its dominance over the forecast period as well. The booming e-commerce sector in the region is one crucial factor that is contributing to North America's growth.
- Asia Pacific is predicted to robustly grow, especially in countries like India and China. Due to the high demand for premium products and luxury products, the market is predicted to expand.

Who is winning?

Adidas AG, Nike, Inc., Puma SE, Fila, Inc., New Balance Athletics, Inc., Knoll, Inc., Samsonite International S.A., VIP Industries Ltd., Timberland LLC, Johnston & Murphy, Woodland Worldwide, Hermès International S.A., Louis Vuitton Malletier, VF Corp., COLLAR Company, LUCRIN Geneva, Nappa Dori, Saddles India Pvt. Ltd., Lear Corp.

Leather Goods Market by Category

By Type, the Leather Goods Industry is Segmented as:

- Genuine Leather Goods
- Synthetic Leather Goods
- Vegan Leather Goods

By Product, the Leather Goods Market is Segregated as:

A. Leather Goods in Handbags

1. Leather Goods in Tote Bag
2. Leather Goods in Clutch
3. Leather Goods in Satchel
4. Leather Goods in Other Handbags

B. Leather Goods in Small Leather Goods/ Accessories

1. Leather Goods in Wallets
2. Leather Goods in Pouches
3. Leather Goods in Card Holders
4. Leather Goods in Phone Covers/Cases
5. Leather Goods in Watch Straps
6. Leather Goods in Other Small Leather Goods/ Accessories

C. Leather Goods in Apparel

1. Leather Goods in Men's Apparel
 - Leather Goods in Shirts
 - Leather Goods in Pants
 - Leather Goods in Suits, Coats & Jacket
 - Leather Goods in Overalls
 - Leather Goods in Other Men's Products

2. Leather Goods in Women's Apparel

- Leather Goods in Skirts
- Leather Goods in Coats & Jackets
- Leather Goods in Pants
- Leather Goods in Others Women Products

3. Leather Goods in Children's Apparel

- Leather Goods in Suits, Coats & Jackets
- Leather Goods in Vests
- Leather Goods in Pants
- Leather Goods in Skirts
- Leather Goods in Chaps

D. Leather Goods in Footwear

1. Leather Goods in Athletic Footwear

- Leather Goods in Men's Athletic Footwear
- Leather Goods in Women's Athletic Footwear
- Leather Goods in Children's Athletic Footwear

2. Leather Goods in Non-athletic Footwear

- Leather Goods in Men's Non-athletic Footwear
- Leather Goods in Women's Non-athletic Footwear
- Leather Goods in Children's Non-athletic Footwear

E. Leather Goods in Home Décor and Furnishing

1. Leather Goods in Decorative Wall Hangings
2. Leather Goods in Tabletop decorative items
3. Leather Goods in Hanging Storage
4. Leather Goods in Leather Furniture
5. Leather Goods in Other

F. Leather Goods in Pet Accessories

1. Leather Goods in Pet Collar and Leads
2. Leather Goods in Leather Pet Toys

G. Leather Goods in Automotive Accessories

1. Leather Goods in Seating Systems
2. Leather Goods in Others

By Region, the Industry of Leather Goods is Segmented as:

- Leather Goods in North America Market
- Leather Goods in Europe Market
- Leather Goods in Asia Pacific Market
- Leather Goods in Latin America Market
- Leather Goods in Middle East and Africa Market

News Updates:

- In 2021, Nike Inc. launched SB Dunk Sneakers, made of vegan leather. The company ensured that the procedure followed for this line of sneakers was cruelty-free. This launch is also aligned with the company's zero-waste initiative.
- In 2020, Puma introduced three, first-of-its-kind Xetic sneakers in Porsche design. The catalog offers casual wear and performance-wear sneakers. The material used for manufacturing these sneakers includes chrome-free and recycled mesh material leather.
- In 2021, Adidas unveiled trainers made of mushroom leather as a part of the sustainability drive carried out by this company. The company collaborated with Lululemon and Stella McCartney to develop Mylo, a mushroom-based, vegan leather for use in trainers.

(Source : <https://www.fmiblog.com> – 19/04/2023)

FRENCH LEATHER SECTOR RESPONDS TO “CONSUMPTION REVOLUTION”

France's leather sector has reported export revenues of close to €18 billion for 2022, an increase of 22% compared to the previous year and double the figure for 2015.



On reporting these results, industry representative body, the Conseil National du Cuir (CNC), said 67% of total export revenues had come from shipments of leather goods and 28% from footwear. It said footwear exports had increased by 26% year on year, with French manufacturers shipping 26 million pairs to Spain, 21 million pairs to Italy, 16 million pairs to Germany and 12 million pairs to Poland.

Only 3% of export revenues came from shipments of raw materials in 2022, but CNC said France was the world's third-largest exporter of raw hides and skins. Almost 75% of all raw French hides and skins exports went to tanners in Italy last year. The total value of raw hide and skin exports was €230.7 million, an increase of 5% compared to the figure for 2021.

Finished leather exports increased by 17% year on year, reaching €256.6 million. Commenting on the figures, CNC president, Frank Boehly, said: “The French leather sector stands out for its exceptional savoir-faire and its commitment to making long-lasting products that will help the wider fashion industry become more sustainable. We are witnessing a genuine revolution in the way consumption works. In the face of this, our sector has been able to renew itself and adapt to the challenges of today's society.”

(<https://leatherbiz.com/> - 19/04/2023)



Leather from Invasive Species

(Part - 4)

Subrata Das, M.Tech (Leather Technology)

Freelance Leather Technologist & Consultant, Chennai



Wild Boar



Wild Boars have been intimately associated with Japanese people since time immemorial. The animal has always been regarded as a valuable source of livelihood. Its meat was eaten, its tusks were used as material for tools and ornaments and its bones were used for obsequies and prayers.

The “os suidae” (boar bones) were purified by a sacred fire, pulverized into small pieces, and dispersed over entire villages, to be returned to the earth by the elements. Through this Shinto ritual, the people expressed their respect and gratitude for lives lost to boar assault and prayed for their repose and rebirth.

Warriors polished swords with boar fat and apothecaries made medicines from its livers and hooves.

Its pelts were also used for religious festivals to seek protection and deliverance from evil spirits and pestilences. Boar pelts were endowed with powerful force. They were used as formidable apotropaic mantles to ward off demons and diseases.

The Tohoku earthquake of March 11, 2011, the strongest ever in Japanese recorded history, resulting in the hurtling of an accompanying tsunami, with force and ferocity onto Fukushima

Daiichi Nuclear Power Plant in Ôkuma, Fukushima, Japan. The tidal and swell waves, some of them 14m high vaulted over vertical seawalls, groins, bulwarks and other shore protection structures, and careened into the nuclear reactors, causing hydrogen explosions, nuclear meltdown and escape of radioactive isotopes not only into the Pacific Ocean, but also across a diameter of approximately forty kilometers around the nuclear facility. (2)

The 9.0-magnitude quake was so forceful it shifted the Earth off its axis. (3)

Emergency evacuation services, in the wake of the Level 5 disaster, resulted in the egress of 154,000 civilian community members, from areas of imminent threat to safer zones and led to the abrupt abandonment of property, holdings, farms, agricultural fields and residences, which in the course of the last eleven years have been overrun by prickly bushes and wild vegetation. In the absence of human habitation and maintenance, buildings have gone into an advanced state of disrepair, dilapidation and decay. Over time, the thriving human habitations have been reclaimed by nature as metal corroded, brick and concrete structures crumbled, and windows broke.

Corresponding author E-mail : katasraj@hotmail.com / katasraj@rediffmail.com

Weeds and wild plant worked their roots into the walls and pavements and grew unrestrained in old decorative window boxes, without human attention or care. (4)

The post-apocalyptic wasteland attracted wild boars which lived and foraged in the volcanic terrain and Jododaira swamplands of the adjoining Azuma Mountains. The opportunistic omnivores ambled down the mountain trails into deserted hamlets to roam, root and forage voraciously and procreate exponentially, undisturbed by human presence. (5)

Additionally, 70% of Fukushima Prefecture comprised of forest areas, shadowed by the Abukuma Mountains in the east and the Ou Mountains at the western end of the Abukuma River at the junction of neighboring prefectures, facilitated migration of wild boars between Fukushima and surrounding areas, without let or hindrance. (6)

The new residents of the Fukushima Exclusion Zone, upon encountering domesticated pigs, integral to Japanese rural life, abandoned by evacuated farmers, successfully mated with them, resulting in a distinctive boar-pig hybrid.

Scientists researching the consequences of the nuclear accident on the fauna of the area discovered a radiation level of up to 30,000 Becquerel per kilogram in the feral swine. There was however no adverse effect on their genetics due to radionuclide contamination.

Laboratory studies on comparative DNA sequencing of feral boars and domestic swine, revealed, what scientists termed - a "biological Invasion" of wild boar genes.

The team investigated the muscle tissues of 243 wild boars, pigs, and boar-pig hybrids. As many as thirty-nine swine out of this number were identified as hybrids due to feral- domestic interbreeding. Three-fourths of the hybrids were from the original exclusion zone.

The research study authors also discovered that the new hybrid genes were not bequeathed over consecutive generations. It was interestingly found that domestic sows which mated with wild hogs transferred the hybrid genes to their offspring, thereby establishing ascendancy of maternal lineage in gene transfer. However, when these same swine, upon attaining breeding capability, mated with the feral of their kind, the genetic influence waned and disappeared after a few generations. (7)(8)

According to Government of Japan data, the total number of wild boars and hybrids in 2018 in the Fukushima Exclusion Zone stood at 62000. Pigs being prolific breeders with a sow giving birth to 4-8 piglets (litter) from each pregnancy, with a maximum of two litters annually, this number may have doubled in the last five years. (9)(10)

The skin of the wild boar, carpeted by stiff, coarse bristles, is exceptionally thick and tough. A major portion of its shoulder area is further reinforced by a substantial layer of cartilage and fat, which considerably reduce a firearm's effectiveness. Therefore, heavy bullets fired by caliber 9.3 x 62 or 308WIN are preferred by hunters and dilettantes to hunt or cull the aggressive and reckless wild beasts. (11)

Boar leather is renowned for its abrasion and puncture resistance, air and water vapour permeability, perspiration desorption, durability and suppleness. Its dense fiber orientation and compact weave qualifies its use as a "bristle-on", hearth rug for use in front of fireplaces. Natural fire-retardant properties enable such rugs to protect the floor from sparks, embers, cinder, slag and soot, without catching fire. Though the bristles may char, the marks can be easily brushed away leaving barely noticeable. Wild Boar rugs are among the most gorgeous when it comes to choosing a hearth rug. (12)(13)

In operation since April 2015, with sixteen artisans and seven staffers, the leather atelier of Dateshi Noringyo Shinko Kosha (Date Agriculture and Forestry Promotion Public Corp.) is situated Date city in Fukushima, Japan. It is renowned for its wild boar leather products sold under "Ino Date" brand, with each and every skin subject to radiation testing, pre-and post-tanning to conform to safety standards.

With the scuff and chafing resistance of wild boar leather coupled with exceptional softness and elasticity as its USP - the Corporation, through its outlets at Ubuka no Sato (Kori prefecture), Hobara Station (Abukuma Express Line) and Ryozen Kosaikan (Local inn) — sells a host of accessories made of this raw material, the bestsellers being babies walking shoes and key fobs. (14)

With 80% of domestic pigskin production, Sumida ward, the center of leather processing in Tokyo is renowned for pigskin tanning. Only a few tanneries remain from the one hundred or so, in operation here, between 1930-40. (15)

With the prolonged ban on the sale and consumption of gibier (game meat) from wild hogs, due to radiation concerns but spiraling number of feral sounders wreaking havoc on agricultural crops, after prolonged deliberations with the local tourism Industry and a tannery in Sumida ward (tannery district of Tokyo), specializing in tanning skins of wild animals, Dateshi Noringyo Shinko Kosha ventured into leather goods and accessories made of wild boar skins, jettisoning its original objective of selling pork from feral boars.

The distinctive Date leather which has a soft, grainy surface can be recognized, like all porcine leather, by prominent bristle pores, in groups of three. For some articles, only leather from the animal's back is utilized from physical orientation and durability. This results in the leather attaining an attractive optic, with all the follicles being horizontal. The sustainably sourced leather goods conveying ecological and social narrative have slowly built up a client base, for being the perfect mélange of form, fashion and function. (16)(17)

Feral hog invasion of Omishima and Hakata islands in Ehime Prefecture has been escalating in recent times. The islands, which are governed by Imabari, are located off the Shimanami Kaido road, which connects Chugoku in western Honshu with Shikoku, which is the smallest among Japan's four islands.

With the wild hogs taking on the role of a quotidian foe of the community members, hunting associations and farmers of the region united in establishing the Shimanami Inoshishi Katsuyoutai team in 2010, with the intent of making effective commercial use of feral boars, some 250 of which were hunted and culled annually.

Jishac – a boar leather brand of Omishima island, founded in 2016, fabricates wallets, infant vests keychains and bags with emphasis on highlighting the physical and performance integrity of boar leather. Sparing no effort to optimize returns on the arduous effort of various stakeholders to reduce the population of the invasive wild swine by selective slaughter, Jishac has launched two exciting product lines.

The first is an artistic, handmade boar leather mask complete with arched canines of the animal, to be worn over a regular one. The second, more dramatic offer from the company, are wild boar tushes (conspicuous canine teeth with which the even-toed omnivores forage for food). A quartet of two lower tusks, called cutters and two upper ones termed grinders

(19), from the same wild boar, carry a price tag of 4600 Yen (\$33) to (\$57). The tushes, which are boiled for a pre-determined period of time to stabilize and condition the dentine, surrounded on both faces by a layer of enamel. These tusks are fully traceable. While ordering online, just by clicking on the images of the tushes on the company website, a client is informed about their dimensions, location of cull, gender, and the boar's weight. (18)

Omishima Wild Boar Leather Craft is yet another interactive enterprise aimed at popularizing wild boar objects and accessories. In its workshop, visitors and tourists, particularly children, are invited and encouraged to experience leather crafting using soft, yet durable boar skin. From Omishima - shaping artistic creations, by embellishing and decorating soft boar leather with buttons while listening to stories about wild boar from the instructor, who is a member of "Shimanami Wild Boar sustainable utilization Team".

Artistically inclined or simply curious children are motivated to choose their item of preferred craft from six different types of accessories such as bookmarks, trays, two designs of key chains, bracelets, and small purses. The items are keenly priced and at the end of the twenty-five-minute programme, if requested, the child's name can be engraved on his or her boar leather work of art.

From the adjoining Inoshishi (Japanese for wild boar) boutique carries a lineup of exclusive items, all made with wild boar leather, such as wallets, accessories, smartphone stands, necklaces, helmet covers and masks, gifts and unusual souvenirs made of wild boar leather and tusks can be purchased. (20)

Wild boar leather has an established niche market in Japan - for adult animals, a boar skin can measure up to 3 square meters and can yield 350–1,000 grams of bristle and 400 grams (14 oz) of underbelly fur. (21)

Apart from Japan, in the last thirty years, wild boars have become serious invasive pests in Australia, Canada and the rest of the Americas.

In the United States, nine million or more wild boars inhabit thirty-nine of the fifty states, thus registering a significant increase from the two million across seventeen states in the 1990s. Texas, Georgia, California, Florida, and South

Carolina together account for almost 35-38% of the wild hog population in the country. Wild hogs are regarded as the most destructive introduced species in the US and the most formidable wildlife problem faced by the country from within in the 21st century. (23)

As of June 2022, Canada is host to upwards of an estimated 60,000 wild hogs, which are progressively adapting well to the white winters and thriving mainly in the provinces of Alberta and Saskatchewan. (24)

The Insular Caribbean is represented as three distinct groups of islands: The Bahamas; the Greater Antilles, consisting of the larger islands of Cuba, Dominican Republic, Haiti, Jamaica, and Puerto Rico; and the Lesser Antilles, composed of the smaller islands. Politically, the sub-region is comprised of 13 independent nations and several French, British, U.S. and Dutch jurisdictions. Among these are the 16 Caribbean Small Island Developing States (SIDS) included in the United Nations official list of SIDS. Twelve of the countries belong to the Caribbean Community and Common Market (CARICOM) and nine to the Organization of Eastern Caribbean States (OECS).

There are three 'twin-island' States – Antigua and Barbuda, St. Kitts and Nevis, and Trinidad and Tobago, as well as the archipelagic States of St. Vincent and the Grenadines, and the Bahamas. The latter consists of 700 low-lying islands and cays, only about 22 of which are inhabited. These places together with Mexico are home to fifty thousand wild hogs, many of which have crossed over from the US. (25)

European settlers in the late 18th century were responsible for setting loose feral pigs in Australia. Today, twenty-four million of these ubiquitous vermin have overrun 40 percent of Australia's land mass. (26)

With neither tradition nor tanning facility nor demand for wild boar leather in any other country or region, other than in Japan, in almost all cases, the skin of the hunted animal is discarded. The hunters, amateurs and dilettantes kill the wild boars, solely for the meat.

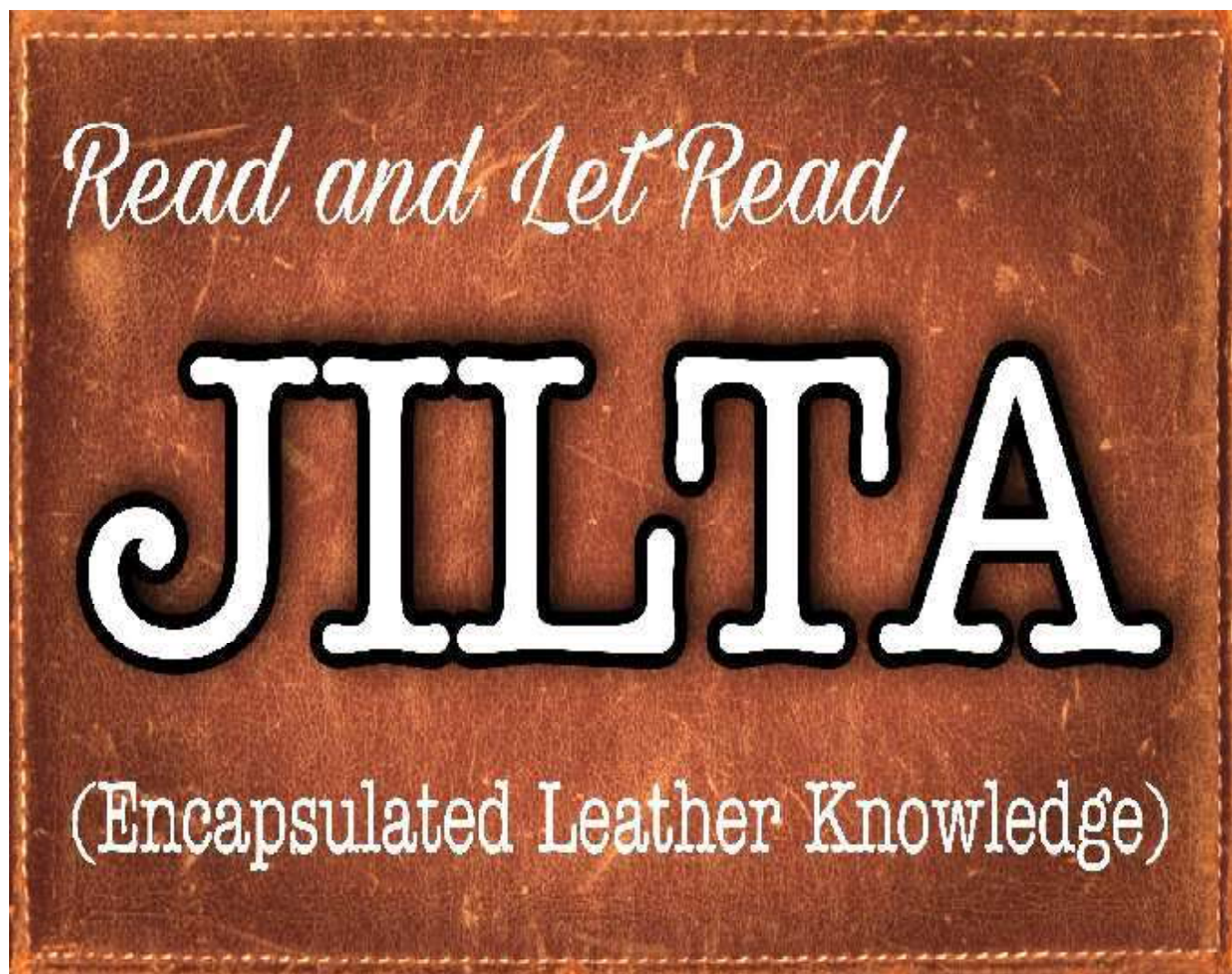
After a successful chase-down, they call it a day, thoroughly contented with an eye-pleasing bonanza of two hams and two lean tenderloins that run the length of the backbone. (27)

The wild boar skin falls by the wayside.

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MICROSCOPICAL DATA & STANDARD SPECIFICATIONS FOR V. T. SOLE LEATHER MANUFACTURED IN INDIA FROM BUFFALO HIDES. * (Part I)

M. Banerjee & S. K. Sarker.

Introduction :—In India sole leather is manufactured from buffalo hides and the quality of the finished leather is usually assessed by chemical & physical tests. But in U. K. and U. S. A the quality is assessed not only by physical and chemical tests but also by microscopical study of the internal structure known as "Microscopical Assessment" of leather. The microscopical method of assessment of quality has proved to be of considerable assistance in the investigation into the quality of sole leather. Moreover, this method of assessing the quality is much more quicker and fairly accurate. The degree of accuracy of the result, however depends upon experience and manipulation of the work and this method of assessing the quality was first introduced by well known leather chemists namely, R. H. Marriott, E. W. Merry, Gladys O Conabre, D. Jordan Lloyd and Kaye.

But in India, microscopical method of assessing the quality is not very well known to the manufacturer and very little attempt has so far been made to introduce this method in assessing the quality.

Microscopical assessment of sole leather is however governed by these features of fiber structure namely,

- (i) Boldness of fibre bundles
- (ii) Orderliness of weave pattern
- (iii) Angle of weave
- (iv) Compactness of weave
- (v) Fullness of fibre bundles
- (vi) Straightness of fibre bundles
- (vii) Delineation of the outlines of fibre bundles
- (viii) Splitting into fibres and fibrils
- (ix) Non separation
- (x) General condition.

In this present investigation, attempt has been made to find out the microscopical features of fibre structure which mainly give an indication into the quality and also to indicate the inter relation among the different features of fibre structure.

* The authors are indebted to the Council of Scientific & Industrial Research for having permitted to publish the work.

Procedure & Experimental data :—

For this investigation 49 samples of pit-tanned sole leather from different sampling positions were collected,

Butt—16 Samples
Belly—14 "
Neck—10 "
Unknown— 9 "

Total : 49 Samples.

Each sample was taken in the form of stick which was embeded in amolten paraffin bath [temp. 55°—56°c] until the paraffination complete and thorough. The samples were then thinly & uniformly sectioned in a Microtome set to about 40-50. The sections were then cleared with xylol and finally mounted with Canada Balsam. The prepared slides were taken for microscopical study. Throughout the investigation the magnification was kept at x60. The samples were individually assessed exactly in the manner described in the appendix no. 1. i. e. by awarding marks, so many out of 8, for individual feature and the average of all features except "Splitting up" taken as figure representing quality and called the "Assessment Value". The figure under 'splitting' was separately assessed but not included in the average assessment figure as this feature has been found to have optimum value according to the purpose for which the particular leather under examination is required e. g. for good quality sole leather splitting should be large but not excess because too much splitting makes the leather too much flexiblc and spongy.

As there is standard range for 'Assessment Value' for Indian sole leather manufactured from buffalo hides for the classification of quality, the following classifications made by Marriott & Merry (1934) for the classification of quality based upon "Assessment Value" has for the present taken into consideration.

Assessment Value.					Quality
5.7 and over	...	...	...	...	Very Good
5.0 5.6	...	...	...	...	Good
4.3 4.9	...	...	...	...	Fairly Good
3.5 4.2	...	...	...	...	Poor
3.4 and less.	...	...	...	...	Bad.

The individual results has been tabulated in the table No. 1. in which the samples has been arranged in order of decreasing "Assessment value".

Average Values of all the features of different classes are shown in table No. 2.

Graph No. 1. represents the quality curves of four classes namely 'Good', 'Fairly Good', 'Poor' and 'Bad' as assessed microscopically.



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Table No. I.

Sl. No.	Location.	Ass. Value.	Boldness.	Orderliness.	Angle of Weave	Compactness.	Fullness	Straightness.	Delineation.	Splitting.	Non-separation.	General condn.	Quality.
			[a]	[b]	[c]	[d]	[e]	[f]	[g]	[h]	[i]	[j]	
1.	Butt.	5.2	4	6	4	6	5	4	4	8	8	6	Good
2.	Neck.	5.1	6	5	4	5	6	4	4	6	8	4	"
3.	Unknown.	5.1	6	5	4	5	4	4	4	4	8	8	"
4.	"	5.0	4	6	4	4	4	4	6	6	8	5	"
5.	"	5.0	5	3	2	6	5	6	4	6	8	6	"
6.	Butt.	4.8	5	4	3	4	5	6	4	5	8	4	Fairly Good.
7.	"	4.8	4	4	3	5	4	6	4	5	8	5	"
8.	Unknown.	4.7	5	4	2	5	5	4	4	4	8	5	"
9.	Butt.	4.7	4	4	3	4	4	6	6	8	8	4	"
10.	Unknown.	4.6	4	4	3	6	5	4	4	6	8	4	"
11.	Butt.	4.5	4	4	3	4	3	7	4	6	8	4	"
12.	"	4.4	4	4	3	4	4	5	4	5	8	4	"
13.	Belly.	4.4	3	4	4	4	4	5	4	6	8	4	"
14.	"	4.4	4	4	4	4	2	6	4	4	8	4	"
15.	Neck.	4.4	4	4	3	4	4	4	5	5	8	4	"
16.	"	4.3	4	4	2	4	3	4	6	6	8	4	"
17.	Unknown.	4.3	5	4	2	2	4	4	6	5	8	4	"
18.	Belly.	4.2	4	5	3	2	2	6	4	4	8	4	Poor
19.	Neck.	4.2	4	2	2	4	5	5	4	5	8	4	"
20.	Butt.	4.2	4	4	2	4	4	4	4	5	8	4	"
21.	"	4.2	4	4	2	4	4	4	4	4	8	4	"
22.	"	4.2	4	4	3	4	3	6	4	5	8	2	"
23.	Butt.	4.1	5	4	3	4	4	5	2	6	8	3	"
24.	"	4.1	4	4	2	4	3	6	4	6	8	2	"
25.	Neck.	4.1	4	4	2	4	3	4	4	4	8	4	"
26.	Unknown.	4.1	5	2	2	4	3	5	5	5	8	3	"
27.	"	4.0	4	2	2	6	4	4	2	6	8	4	"
28.	Belly.	4.0	4	4	4	3	4	8	2	6	8	4	"
29.	"	4.0	4	4	4	2	4	4	2	8	8	4	"
30.	Neck.	4.0	4	4	4	4	3	5	2	8	6	4	"
31.	Belly.	3.9	3	4	4	2	4	6	2	8	8	2	"



MICROSCOPICAL DATA & SPECIFICATIONS FOR V. T. SOLE

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Table No. I. (continued.)

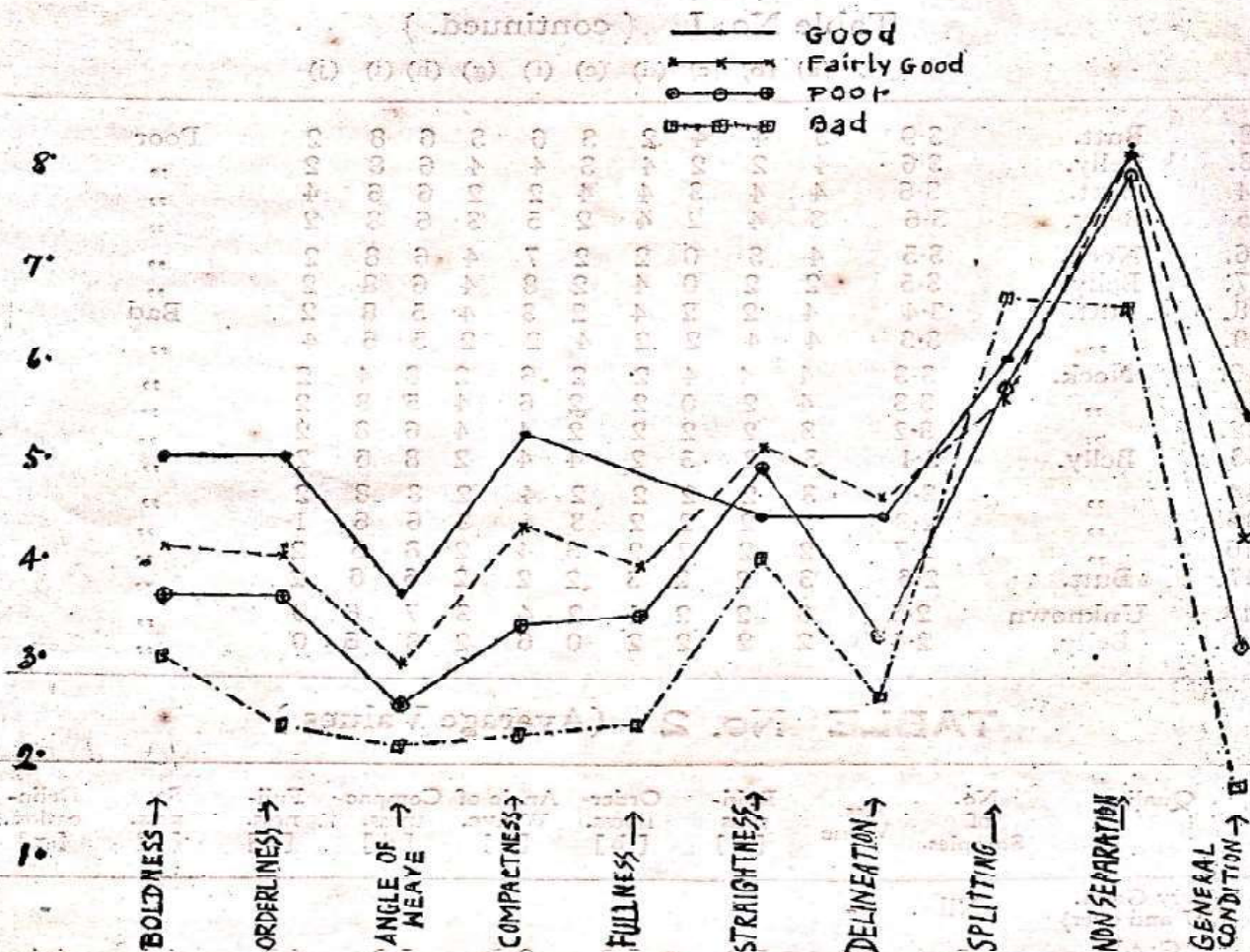
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)		
32.	Butt.	3.9	3	4	4	2	3	6	3	6	8	2	Poor
33.	Belly.	3.6	4	2	2	4	3	4	4	6	8	2	"
34.	Butt.	3.6	4	4	3	4	4	2	2	6	6	4	"
35.	Belly.	3.6	3	4	2	4	2	5	3	6	8	2	"
36.	Neck.	3.5	4	3	0	2	2	7	4	6	8	2	"
37.	Belly.	3.5	2	2	0	4	2	8	4	6	8	2	"
38.	Butt.	3.4	4	2	2	4	2	3	4	5	8	2	Bad.
39.	"	3.3	4	4	2	2	4	2	2	5	6	4	"
40.	Neck.	3.3	4	4	4	2	2	6	2	8	4	2	"
41.	"	3.3	4	2	0	2	2	6	4	5	8	2	"
42.	"	3.2	3	2	2	2	2	4	1	6	8	2	"
43.	Belly.	3.1	3	2	3	2	4	4	2	8	6	2	"
44.	"	3.0	3	2	2	2	2	4	2	8	8	2	"
45.	"	2.8	2	2	2	2	3	4	3	6	6	1	"
46.	"	2.7	2	2	2	2	3	4	2	8	6	2	"
47.	Butt.	2.6	3	2	2	3	2	2	2	6	6	2	"
48.	Unknown.	2.5	3	2	2	1	2	4	3	7	6	0	"
49.	Belly.	2.4	2	2	2	2	0	6	2	8	6	0	"

TABLE No. 2 (Average Values)

Quality.	No. of Samples.	Ass. Value	Boldness [a]	Orderliness. [b]	Angle of Weave. [c]	Compac-tness. [d]	Full-ness. [e]	St. ness. [f]	Delin-eation. [g]
Very Good. (5.7 and over)	Nil	-	-	-	-	-	-	-	-
Good. (5.0 - 5.6)	5	5.1	5.0	5.0	3.6	5.2	4.8	4.4	4.4
Fairly Good. (4.3 - 4.9)	12	4.5	4.1	4.0	2.9	4.3	3.9	5.1	4.6
Poor. (3.5 - 4.2)	20	3.9	3.6	3.6	2.5	3.3	3.4	4.9	3.2
Bad. (3.4 and below)	12	2.9	3.0	2.3	2.1	2.2	2.3	4.0	2.6
						Sp. tting. [h]	Non-Sep. [i]	Gn. Condt. [j]	Splitting Value. [8-b]
						-	-	-	-
						6.0	8.0	5.4	2.0
						5.6	8.0	4.2	2.4
						5.7	7.8	3.1	2.3
						6.6	6.5	1.7	1.4

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Graph No. I

Discussion of Experimental data :—

From the Table No. 1. it is seen that there was not a single sample out of 49 which can be classified as 'Very Good' quality the range of Ass. Value for which is 5.6 and over.

Each and individual microscopical feature is discussed below :—

(a) **Boldness** :—Over the whole range of the samples, there is a variation of 2 units between the average of the best and average of the poorest (table no. 2). There is however a gradual decrease in as stepped down from 'Good' to 'Bad' as is evident from graph no. 1. From table no. 1 & 2, it is also seen that 'Boldness' is more pronounced in better quality leather. One sample only out of 17 classified as 'Good' and 'Fairly Good' gives value less than 4 i. e below fairly bold for 'Boldness'. It therefore appears that for higher Ass. Value i. e for better quality the value for 'Boldness' should not fall below 4.

(b) **Orderliness** :—From table no. 2 and graph no. 1, it appears that the variation of this feature between the average of the best and average of the poorest is 2.7 units. The variation of this feature from one quality to the other is not steady because the difference is least between 'Fairly-Good' and 'Poor' (.4 unit) and maximum between 'Poor' & 'Bad' (1.3 unit). So, disordered weave pattern is an indication of poor quality leather.

(c) **Angle of Weave** :—The variation of this feature from 'Good' to 'Bad' is 1.5 unit. Angle of weave falls rapidly from 'Good' to 'Fairly Good'. Variation however gradually decreases below 'Fairly Good' is evident from table no. 2. From the graph no. 1, it also appears that 'orderliness' bears a close relation with 'angle of weave'. In this investigation the value found to be maximum 5 when the angle of weave is medium angle. Orderliness falls rapidly when the angle of weave is below medium angle. Above 'medium angle' the relationship is not however definitely known. Because out of 40 samples, not a single sample exhibited the 'angle of weave' above medium angle. Wear resistance of sole leather increases with the increase of 'angle of weave'. So, higher angle of weave is an indication of better quality.

(d) **Compactness** :—There is a large variation of 3 units between 'Good' and 'Bad' as is evident from table no. 2 and graph no. 1. High degree of compactness is a consistent feature of good quality sole leather. The variation increases as stepped down from 'Good' to 'Bad', because the difference between 'Good' and 'Fairly good' is .9 unit, between 'Fairly good' and 'Poor' is 1.0 unit, and between 'Poor' and 'Bad' is 1.1 unit. Hence, it can be concluded that the feature that varies most between leather of high and leather of low microscopical assesment value is 'compactness'. Looseness of weave is surely an indication of 'Poor' and 'Bad' quality sole leather.

(e) **Fullness** :—The variation in value of this feature from 'Good' and 'Bad' is 2.5 Units. The variation is however minimum between 'Fairly Good' and 'Poor'. There is no sample with a value below 4 i. e below fairly full for 'Fullness' which has been classified as 'Good'. So, less than value 4 for 'Fullness' must be regarded as having little chance of being good quality.

There is a close relationship between 'Compactness' and 'Fullness', particularly between 'Good', and 'Fairly Good', 'Poor' and 'Bad' as seen from graph no. 1. Unless the fibre bundles are sufficiently full; the weave cannot be compact. Thin bundles can never give compact weave.

(f) **Straightness** :—From graph no. 1 and table no 2 it is seen that it has very little effect upon the quality but it is desirable that for good quality sole leather the value of this feature should not fall below 'Medium curve'. Below medium curve i. e small and crinkled fibre bundles is surely an indication of inferior quality sole leather.

(g) **Delineation** :—The variation of this feature from 'Good' to 'Bad' is 1.8 unit. Below 'Fairly Good' there is a rapid fall in value of this feature which indicates

the falling away in quality. Fuzzyness of the outlines of the fibre bundles is an indication of poor bad quality leather.

(h) **Splitting** :—From table no. 2 it is noticed that the value of splitting for 'Good' and 'Fairly good' varies from 6—5.6 i. e large amount without any separation, where as for 'Poor' and 'Bad' the range is 5.7—6.6 with little 'separation'.

Though, the variation of the feature 'Splitting' is very small between Good and Bad yet it is desirable that Splitting should be large without separation for good quality sole leather. Separation occurs when splitting is carried to an excess. Hence for good quality too much splitting is not desirable.

(i) **Non-Separation** :—From the table no. 2 and also from the nature of the graph no. 1, it is seen that the difference in value of this feature between 'Good' and 'Bad' is only 1.5 unit. In 'Good' and 'Fairly Good' classes there is no separation at all which is indicated by the full value 8. Separation appears below 'Fairly Good' i. e 'Poor' and 'Bad' classes. Any separation must be regarded as a definite indication of lack of quality. It is also noticed that fibre bundle cannot be bold if the fibres are separated, because fibre bundles are composed of large number of fibres, if the fibres are separated, boldness of the fibre bundles cannot exist.

(i) **General Condition** :—Average value of this feature decreases steadily from 'Good' to 'Bad' as seen from table no. 2 and graph no. 1. The variation of this feature from 'Good' to 'Bad' is 3.7. The evaluation of this feature depends upon the features namely Compactness, Orderliness, Angle of Weave and Splitting.

Summary :—

(1) In assessing the quality of sole leather, 'Compactness' is the feature which appears to be of outstanding value. Again unless the fibres are sufficiently full the weave cannot be compact. Second important feature is 'Orderliness'. 'Boldness' and 'Angle of Weave' are the next important features which affect the quality.

For sole leather, the feature under 'Splitting' has some importance upon the final quality because flexibility of sole leather depends upon splitting. For sole, splitting should not be too much because too much splitting makes the leather spongy & too flexible which are not desirable for sole leather.

Though, 'Delineation' & 'Straightness' are the least important features which affect the quality, yet for good quality sole leather there should be no 'Fuzzyness' of the outlines of the fibre bundles under the feature 'Delineation' and 'Straightness of the fibre bundles' should not fall below medium curve.

(2) **Orderliness & Angle of Weave** :—In this investigation it is seen that upto 'Medium angle', 'Orderliness' varies directly with the 'Angle of weave'. Above medium angle the nature of relationship between 'Orderliness' & 'Angle of weave' is not definitely known.

(3) **Fullness & Compactness:**—Compactness of weave bears a close relation with 'Fullness' of fibre bundles. Unless the fibres are sufficiently full; the weave cannot be compact. Thin bundles can never yield compact weave.

(4) **Splitting & Non-Separation :**—Separation of fibres cannot occur unless 'Splitting' is carried to an excess.

(5) **Boldness & Non-separation :**—Bold fibre bundles cannot occur where fibres and fibrils are separated.

[To be Continued]

MICROSCOPICAL DATA & STANDARD SPECIFICATIONS FOR V. T. SOLE LEATHER MANUFACTURED IN INDIA FROM BUFFALO HIDES. (PART II)

"Microscopical Study on the General characteristics of Fibre structure of Bag tanned and Pit tanned Sole Leather manufactured in India from Buffalo hide".

M. Banerjee & S. K. Sarker.

Introduction :

In India sole leather is tanned by the bag and pit process of tanning producing respectively bag tanned and pit tanned sole leather. The former is indigenous process in India practised all over the country perhaps from the time immemorial. Bag tanning process received conspicuous development in the Punjab and since the first great war, it has been carried out to a large extent in Calcutta by Punjabi chamars. On the other hand, pit tanning process is followed by all the reputed tanneries in India. Bag tanning process is a typical cottage tanning process and no large capital investment is required. Pit tanning process is a slow method requiring about 4 months to tan where as bag tanning process requires only about one month but the yeild of leather produced by bag process is much more lower than pit process. Pit tanning produces firm, tight grained and well filled up leather where as bag tanning produces soft and spongy leather. In both the processes dry, dry salted, wet salted or fresh buffalo hides are used as raw materials. Bag tanned sole leather is much more cheaper than pit tanned variety and both have got good market in India. Most of the local chamars on account of cheapness and easiness to handle, prefer to use bag tanned sole leather in repairing as well as in shoe manufacturing purposes.

This investigation was undertaken with a view to make a comparative study of the fibre structure of these two varieties namely bag tanned and pit tanned sole leather manufactured in India.

The investigation was divided in two groups :—

Group A—Study on the fibre structure of bag tanned sole leather.

Group B—Study on the fibre structure of pit tanned sole leather.

Procedure & Results :

For each group, two sets of samples were collected and each set consisted of 50 samples having the following locations :

Butt—6
Neck—6
Belly—6
Unknown—2
Total : 20

Samples were embedded in paraffin and sectioned to a thickness of about 20 microns. The sections were then cleared with xylol and finally mounted in Canada balsam. The prepared slides were examined under microscope and assessed exactly in the same manner as described in the appendix I.

Appendix I

The following table by Marriott & Metry (1933) describes the manner in which marks or values are awarded to each of the individual microscopical features in assessing the quality of V. T. Sole leather.

		Assessment Number				
		8	6	4	2	0
(a)	Boldness of fibre bundles.	Very bold.	Bold.	Fairly bold.	Illdefined.	No bundles.
(b)	Orderliness of weave.	Well ordered	Ordered.	Fairly ordered.	Disordered.	Very disordered.
(c)	Angle of weave.	Vertical	High angle.	Medium angle.	Low angle.	Horizontal.
(d)	Compactness of weave.	Very compact.	Compact.	Fairly compact.	Slightly loose.	Loose.
(e)	Fullness of fibre bundles.	Very full.	Full.	Fairly full.	Slightly thin.	Thin.
(f)	Straightness.	Straight.	Large curve.	Medium curve.	Small curve.	Crinkle.
(g)	Delineation.	Clear thin out line.	Clear but slightly thick.	Clear but thick.	Slightly fuzzy.	Very fuzzy.

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	8	6	4	2	0
(h) Splitting.	Very large amount.	Large amount.	Medium amount.	Slight amount.	None.
(i) Non-Separation.	None.	Slightly separated.	Medium.	Large.	Very large.
(j) General condition.	Very good.	Good.	Fairly good.	Fair.	Poor.

(A) Assessment value = Average of all except "Splitting" i. e. (h)

(B) Splitting value = 8 - h

Individual results of the two groups i.e. bag tanned and pit tanned samples have been tabulated in table 1 and 2. In table 3 and 4, samples of the two groups have been distributed among different heads under different conditions namely Boldness, Orderliness, Angle of weave etc. from results of table 1 and 2.

Discussion :

Microscopically the quality of sole leather is assessed by ten conditions of fibre structure namely, Boldness of the fibre bundles, Orderliness of weave pattern, Angle of weave etc. (as shown in appendix I.). Higher the assessment value better is the quality. From the results of table 3 and 4, it is seen that the fibre structure of bag tanned sole leather differs considerably from pit tanned variety. Marked variations are however found in the conditions namely, Boldness of fibre bundles, Orderliness, Angle of weave, Compactness, Fullness of fibre bundles, Straightness of fibre bundles and General condition. Practically no variation is however noticed in the conditions namely, Delineation of out line of fibre bundles, Splitting and Non separation.

Each and individual condition is discussed below and the range which is covered by majority of the samples under investigation (as shown in table 3 and 4) has been taken into account.

(a) **Boldness of fibre bundles :** Leather is composed of large number of interwoven fibre bundles. Boldness of fibre bundles means the general sturdiness of the appearance of the whole area as distinct from the description of its outlines. The boldness of the fibre bundles is more pronounced in good quality sole leather. From the results of table 3 and 4, it is seen that Boldness of fibre bundles of pit tanned sole leather ranges from "Fairly bold to bold" where as in the case of bag tanned sole leather the value ranges from "Fairly bold to illdefined".

(b) **Orderliness of weave pattern :** The structure and arrangement of fibre bundles in good quality sole leather is always regular. The evaluation of this feature is judged whether the arrangement of fibre bundles form a pleasing pattern to the eye or not. In pit tanned sole leather, the value of this condition ranges from "Fairly ordered to ordered", where as in bag tanned sole the range is "Fairly order to disordered".

(c) **Angle of weave :** This means the angle which the fibre bundles in general subtend with the grain surface. The angle of weave appears to influence the



firmness, substance, tensile strength and wear resistance of leather. In pit tanned sole leather the fibre bundles in general subtend medium angle i.e. 45° with the grain surface where as in bag tanned sole leather the fibre bundles are in general found to subtend an angle below medium angle i.e. low and horizontal.

(d) **Compactness of weave :** Compactness or the packing of the fibre bundles is more pronounced in good quality sole leather because solidity and firmness of sole leather depend upon the compactness of weave. In the case of pit tanned sole leather this value ranges from "Fairly compact to compact" but in the case of bag tanned sole the range is "Fairly compact to slightly loose".

(e) **Fullness of fibre bundles :** An approximate idea of the fullness of fibre bundles can be judged by comparing the width of the fibre bundles. Fullness of the fibre bundles, to some extent, depends upon the age, sex of the animal and also upon the manufacturing process. In pit tanned sole leather, the fullness of the fibre bundles is found to vary from "Fairly full to full", where as in bag tanned sole leather the range is "Below fairly full i.e. slightly thin and thin".

(f) **Straightness of fiber bundles :** The range of this feature in the case of pit tanned sole leather is "Medium to large curve" where as for bag tanned sole leather the range is "Above medium curve to straight bundles".

(g) **Delineation of fibre bundles :** Delineation means the sharpness of the outlines of the fibre bundles. In both the varieties the range is "Clear out line to fuzzy"

(h) **Splitting into fibres and fibrils :** In both the cases the range is "medium to large amount".

(i) **Non-Separation :** Under this feature also, no characteristic difference is noticed because the range in both the cases is "None to slight separation".

(j) **General condition :** For pit tanned sole leather this condition ranges from "Fair to fairly good", where as for bag tanned sole leather the range is "Fair to poor".

Thus considering all the conditions, the general characteristics of fibre structure of pit tanned and bag tanned sole leather can be summerised as follow :

Conditions :	Pit tanned sole :	Bag tanned sole :
(a) Boldness of fibre bundles.	Fairly bold to Bold.	Fairly bold to Illdefined.
(b) Orderliness of weave.	Fairly ordered to ordered	Fairly ordered to Disordered.
(c) Angle of weave.	Medium angle.	Below medium i.e low and horizontal.
(d) Compactness of weave.	Fairly compact to compact.	Fairly compact to slightly loose.
(e) Fullness of five bundles.	Fairly full to Full.	Slightly thin and thin.
(f) Straightness of fibre bundles.	Medium to large curve.	Above medium curve to straight.

Conditions :	Pit tanned sole :	Bag tanned sole :
(g) Delineation of the out lines of fibre bundles.	Clear to Fuzzy outline.	Clear to Fuzzy outline.
(h) Splitting into fibres and fibrils.	Medium to large amount	Medium to large amount
(i) Non-Separation of fibres.	None to slight Separation	None to slight separation
(j) General Condition.	Fair to Fairly good.	Fair to Poor.

A good quality sole leather is characterised by bold fibre bundles with compact, ordered and high angle of weave with full fibre bundles. Splitting should be large but there should be no separation of fibres and the fibre bundles should have a clear outline. General characteristics of fibre structure of these two varieties indicate the superiority of pit tanned sole leather over bag tanned variety.

(The characteristic weave pattern of these two varieties are shown in Fig I & II)

The inferior fibre structure of bag tanned variety in comparison to pit tanned leather may be attributed to several causes—

(i) In bag tanning process, generally hides of poor quality mostly sundried hides are used which are not being properly soaked and limed.

(ii) In bag tanning process, during tanning the pelts are kept under high tension by hanging them in the form of bags after sewing and putting bark and infusion inside. This pressure damages the natural



Fig I. Pit tanned (butt) (Magnification 46 x)

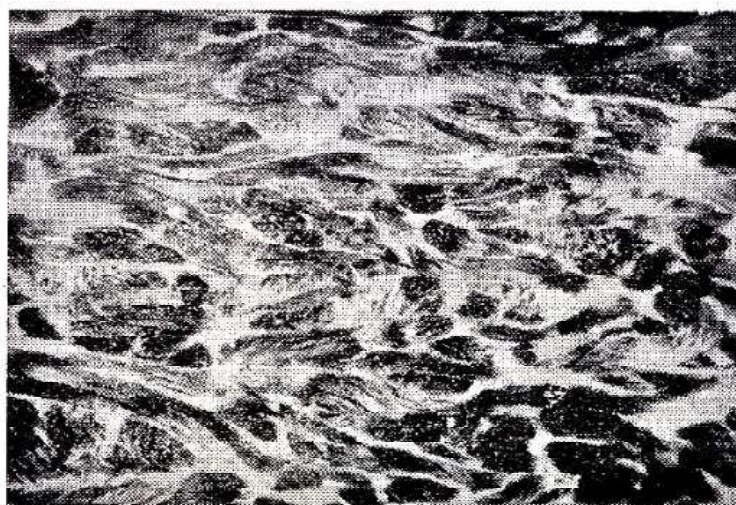


Fig II. Bag tanned (butt) (Magnification 46 x)

structure of the pelt making the fibre bundles thin and flat. In bag process, during the short period of tanning; the tan liq is made only to pass through the pelt as a result proper tanning as well as non tannin deposition in between the fibre bundles which gives solidity to leather cannot take place. Where as in pit tanning process no pressure is applied or made to apply on the pelt and during the long period of tanning, the fibres are well and uniformly tanned and proper amount of non tannin deposition can take place as a result the leather produced is more firm, compact and solid than bag tanned leather.

TABLE—1.
(Bag tanned sole)
Set no. 1.

Sl. No.	Boldness.	Orderliness.	Angle of weave	Compactness.	Fullness.	Straightness.	Delineation.	Splitting.	Nonseparation.	Gn. cond.	Ass. value.
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	
1.	5	4	3	4	3	5	2	6	8	6	4.4
2.	4	3	3	6	3	7	2	4	8	4	4.4
3.	4	3	4	3	3	6	4	4	8	4	4.3
4.	4	4	3	4	2	6	4	6	6	4	4.1
5.	5	2	3	4	2	6	4	6	6	4	4.0
6.	4	2	2	4	4	5	4	4	8	2	3.9
7.	4	4	2	2	2	6	4	4	8	2	3.8
8.	3	4	4	2	4	5	4	5	8	2	3.8
9.	3	4	2	2	2	6	4	4	8	2	3.6
10.	2	4	4	2	4	4	2	3	8	2	3.5
11.	3	2	3	2	2	6	4	4	8	2	3.5
12.	2	2	2	2	3	4	4	4	8	2	3.4
13.	3	4	2	4	2	4	2	4	6	2	3.4
14.	4	2	0	2	2	7	4	6	6	2	3.2
15.	4	2	1	2	4	4	4	8	0	2	3.2
16.	4	2	2	3	0	3	4	4	8	2	3.1
17.	2	2	2	2	2	6	4	4	8	0	3.1
18.	2	2	2	2	0	4	6	6	8	0	2.8
19.	2	2	2	0	0	6	4	6	4	0	2.2
20.	1	2	0	0	1	8	2	8	4	0	2.0

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Set no. II.											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Ass Val.
1.	5	4	3	4	4	5	3	6	8	4	4.6
2.	5	4	5	4	2	5	4	4	8	4	4.5
3.	4	4	2	4	4	6	4	4	8	4	4.4
4.	4	4	2	2	4	8	4	6	8	4	4.4
5.	4	2	3	4	4	7	2	4	8	4	4.2
6.	4	4	3	2	2	6	4	4	8	4	4.1
7.	3	4	4	4	2	4	4	4	8	2	3.9
8.	3	2	4	4	2	6	4	4	8	2	3.9
9.	4	2	3	4	2	5	2	4	8	2	3.5
10.	4	4	1	4	0	3	3	6	8	2	3.4
11.	4	2	3	2	0	7	4	8	6	2	3.3
12.	4	2	1	2	4	4	4	8	6	2	3.2
13.	2	4	2	2	2	4	4	4	8	0	3.1
14.	2	2	4	4	2	2	2	0	8	2	3.1
15.	3	2	2	2	2	6	2	8	6	2	3.0
16.	2	2	2	2	2	7	0	4	8	0	2.7
17.	2	1	2	2	2	5	4	6	6	0	2.6
18.	2	2	2	2	0	6	4	6	4	0	2.4
19.	2	0	2	2	2	5	4	8	2	0	2.3
20.	2	0	0	2	2	5	4	8	4	0	2.1

TABLE—2. (Pit tanned sole.) Set No. I.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Ass Val.
1.	6	5	5	5	4	4	4	6	8	6	5.2
2.	5	4	4	4	4	8	4	4	8	4	5.0
3.	4	4	4	5	6	5	4	4	8	4	4.9
4.	6	5	4	4	6	6	2	8	6	4	4.7
5.	4	5	4	4	4	6	4	6	8	4	4.7
6.	5	5	4	6	4	4	2	8	8	4	4.6
7.	4	6	4	6	4	4	4	8	6	4	4.6
8.	5	4	4	5	5	4	4	6	6	4	4.5
9.	4	4	4	4	4	4	5	5	8	4	4.5
10.	4	4	4	3	3	6	4	5	8	3	4.3
11.	4	4	3	2	4	6	4	6	8	3	4.2
12.	4	4	4	4	4	4	2	6	8	4	4.2
13.	4	4	4	6	4	4	2	6	6	4	4.2
14.	4	3	4	4	3	4	4	6	6	4	4.0
15.	3	4	3	4	4	4	3	6	6	4	3.9
16.	4	4	4	4	2	4	2	5	8	2	3.7
17.	2	2	0	1	4	0	2	6	8	2	3.5
18.	4	4	0	3	2	4	4	5	8	2	3.4
19.	4	4	2	3	2	4	2	6	6	2	3.2
20.	2	2	4	2	2	4	2	8	8	0	2.9

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Set no. II.

	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	Ass Val.
1.	4	5	4	6	5	4	4	4	8	6	5.1
2.	5	4	4	6	4	5	4	5	8	5	5.0
3.	5	5	4	5	4	5	4	6	8	4	4.9
4.	4	5	4	6	5	6	2	6	8	4	4.8
5.	5	5	6	4	5	4	2	6	8	4	4.7
6.	4	5	4	4	4	5	3	6	8	4	4.5
7.	5	4	5	4	5	4	4	6	6	4	4.5
8.	4	4	4	4	5	5	3	6	6	4	4.3
9.	4	2	4	4	5	5	3	6	6	4	4.1
10.	4	2	4	4	4	4	2	6	8	4	4.0
11.	4	4	4	2	4	5	2	8	6	4	3.9
12.	4	3	4	4	2	4	2	5	8	4	3.9
13.	3	4	3	4	4	4	2	5	8	3	3.9
14.	4	4	4	4	2	4	4	6	8	2	3.8
15.	4	2	4	2	4	5	4	5	8	2	3.8
16.	3	2	4	4	4	2	4	4	8	2	3.6
17.	2	4	4	4	2	4	2	8	6	2	3.5
18.	4	4	2	4	2	4	2	6	6	2	3.3
19.	4	2	1	2	4	6	2	8	6	0	3.0
20.	4	1	2	3	2	4	4	6	6	0	0.8

TABLE NO.—3

(Bag tanned sole)

		Number of sample.	
Value.		Set no. I.	Set no. II.
(a) Boldness :—	Above 4	2	2
	Fairly bold to Illdefined. 4-2	17	18
	Below Illdefined. Below 2	1	Nil.
	Total.	20	20
(b) Orderliness :—	Above 4	Nil.	Nil.
	Fairly ordered to Disordered. 4-2	20	17
	Below disordered i.e very disordered. Below 2	Nil.	3
	Total.	20	20



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		Number of sample	
	Value.	Set No. I	Set No. II.
(c) Angle of weave :—			
Above medium angle.	Above 4	Nil.	1
Medium angle (45°)	4	3	3
Below medium angle i.e low and horizontal.	Below 4	17	16
	Total.	20	20
(d) Compactness :—			
Above Fairly compact.	Above 4	1	Nil.
Fairly compact to slightly loose.	4-2	17	20
Loose.	0	2	Nil.
	Total.	20	20
(e) Fullness :—			
Above Fairly full.	Above 4	Nil.	Nil.
Fairly full.	4	4	6
Below Fairly full i.e slightly thin & thin.	Below 4	16	14
	Total.	20	20
(f) Straightness :—			
Above medium curve i.e large and straight.	5-8	14	15
Medium curve.	4	5	3
Below medium curve.	Below 4	1	2
	Total.	20	20
(g) Delineation :—			
Clear outline.	4 and above	15	13
Fuzzy outline.	Below 4	5	7
	Total.	20	20
(h) Splitting :—			
Above large amount.	Above 6	2	6
Medium to large amount.	4-6	17	14
Below medium amount.	Below 4	1	Nil.
	Total.	20	20
(i) Non-Separation :—			
None	8	14	13
Slight separation.	6	4	4
More than slight amount.	Below 6	2	3
	Total.	20	20

	Value.	Number of Sample.	
		Set No. I.	Set No. II.
(j) General Condition :—			
Fairly good to good.	4-6	5	6
Fair to Poor.	2-0	15	14
		Total. 20	20

TABLE NO.—4.

(Pit tanned sole)

(a) Boldness :—			
Fairly bold to Bold.	4-6	17	17
Below Fairly bold.	Below 4	3	3
		Total. 20	20
(b) Orderliness :—			
Fairly ordered to Ordered.	4-6	17	13
Below Fairly ordered to Disordered and Very disordered.	Below 4	3	7
		Total. 20	20
(c) Angle of weave :—			
Above medium angle.	Above 4	1	2
Medium angle (45°)	4	14	14
Below medium angle.	Below 4	5	4
		Total. 20	20
(d) Compactness :—			
Fairly compact to Compact.	4-6	15	16
Below Fairly compact i. e. slightly loose and loose.	Below 4	5	4
		Total. 20	20
(e) Fullness :—			
Fairly full to Full.	4-6	14	15
Below Fairly full i.e slightly thin and thin.	Below 4	6	5
		Total. 20	20
(f) Straightness :—			
Straight.	8	2	Nil.
Medium to large curve.	4-6	18	19
Below medium curve.	Below 4	Nil.	1
		Total. 20	20

THE SURFACE CHARGE IN LEATHER MANUFACTURE

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		Number of Sample.	
	Value.	Set No. I.	Set No. II.
(g) Delineation :—			
Clear outline.	4 and above	11	8
Slightly fuzzy.	3-2	9	12
		<u>Total.</u>	<u>20</u>
(h) Splitting :—			
Very large amount.	8	4	3
Medium to large amount.	4-6	16	17
Below medium amount.	Below 4	Nil.	Nil.
		<u>Total.</u>	<u>20</u>
(i) Non-Separation :—			
None.	8	13	12
Slight separation.	6	7	8
More than slight amount.	Below 6	Nil.	Nil.
		<u>Total.</u>	<u>20</u>
(j) General Condition :—			
Above Fairly good.	Above 4	1	2
Fairly good to Fair.	4-2	18	16
Below Fair i.e Poor.	Below 2	1	2
		<u>Total.</u>	<u>20</u>

Read and Let Read

JILTA

(Encapsulated Leather Knowledge)

DGFT LAYS OUT PROCEDURE FOR EXPORTERS TO APPLY FOR AMNESTY SCHEME



The commerce ministry on Monday laid out a procedure for applying for amnesty scheme for one-time settlement of default in export obligation by certain exporters. The directorate general of foreign trade (DGFT), under the ministry, directed the regional authorities to process any such applications within three working days.

“Application for AA (advance authorisation)/EPCG (export promotion for capital goods) discharge/closure shall be filled online by logging onto the DGFT website and navigating to services,” the DGFT said in a policy circular.

The government announced the new foreign trade policy (FTP) on March 31. It included an amnesty scheme for exporters for one-time settlement of default in export obligation by the holders of advance and EPCG (export promotion for capital goods) authorisations.

Under the scheme, all pending cases of the default in meeting export obligation (EO) of certain authorisations can be regularised by the authorisation holder on payment of all customs duties that were exempted in proportion to unfulfilled EO and interest at the rate of 100 per cent of such duties exempted.

In another trade notice, the DGFT notified new HSN codes for technical textiles items.

In trade parlance, every product is categorised under an HSN code (Harmonised System of Nomenclature). It helps in systematic classification of goods across the globe.

It said that despite having specific codes for technical textiles, it has been noted that imports/exports have not been booked under correct HS codes and the trade seems to be still being booked under other available codes.

“Accordingly, the matter has been reviewed in consultation with the textiles ministry and it is reiterated that all importers/exporters should file their bill of entry/shipping bill with specific HSN codes available for man-made fibre and technical textiles under...and to avoid using any other codes,” it said.

A list of 32 codes has been notified to facilitate the industry for easy recognition and helping them to book their import and exports under correct product category.

It asked the industry to suggest more codes, if they require.

(Source : Economic Times – 17/04/2023)

TAX REFUND SCHEME FOR EXPORTS MAY BE EXTENDED BEYOND SEPTEMBER



Government may Extend Tax Refund Scheme for Exports

The government is expected to prolong the extended duty remission plan for exporters beyond the September deadline, offering help to the medicines, steel, and chemicals industries, as per the officials familiar with it.

The Remission of Duties and Taxes on Exported Products (RoDTEP) Scheme has been expanded in December of last year to include pharmaceuticals, chemicals, and some steel items.

The commerce department indicated that tax refunds would be available for the extra products until September 30, 2023. The department sought to know if it had enough budgetary resources to fund the tax remission for the whole financial year 2023-24.

According to officials, the Government now believes the budgetary allocation would be sufficient for the entire financial year 2023-24. "At the moment, monthly refund claims under the RoDTEP scheme total around 1,200 crore. As a result, the planned allocation of Rs 15,069 crore for FY24 should be sufficient to continue extending this benefit to the sectors that were added subsequently," a senior official on condition of anonymity.

However, if the government decides to broaden the scheme to encompass the entire iron and steel sector, an extra Rs 1,000 crore will be required for this financial, according to the official.

The scheme received 13,699 crore from the government in 2022-23. As per the official, the government will assess the proposal by September 30 and notify its decision. The initiative, which goes into effect on January 1, 2021, recovers central, state, and municipal levies incurred in the manufacture and export of products that are not covered by any other incentive scheme.

The move will help exporters of these goods compete for orders as demand in important developed markets slows. According to official figures, exports of chemicals, medicines, and certain steel items totaled \$61 billion till February of the financial year, accounting for around 15% of total merchandise despatches.

The Foreign Trade Policy 2023, which was announced last week, highlighted timely tax remission for exporters as part of a shift away from any incentive-based approach. The RoDTEP plan complies with World Trade Organization (WTO) standards. The extended RoDTEP system now covers 10,342 export products, up from 8,731 previously.

The concept is founded on the widely understood principle that exports can be tax-free and levies can be reimbursed. Remission scheme, according to experts, is vital to enhancing the country's export competitiveness and meeting the \$1 trillion merchandise export objective by 2030 from \$447 billion in 2022-23.

(Source : Stadycafe.in – 08/04/2023)

FINTECH PLATFORM TIDE AIMS TO ON-BOARD 10 LAKH SMES BY DECEMBER 2024

London-based fintech platform Tide is planning to get 10 lakh small and medium enterprises (SMEs) on-board in India by December, 2024. Tide, the UK's leading SME-focused business financial platform, has onboarded 50,000 SMEs since its entry in India in December 2022, a company statement said.

With the quick platform adoption and the market potential in India, Tide is confident that 10 lakh SMEs will join its platform and benefit from its digital business banking suite by the end of the year 2024. Tide also crossed 2.25 lakh app downloads on Google Play Store in March, since its launch, the statement added.



With a compliance-first approach to its India market strategy, Tide has onboarded and issued RuPay Cards to all the member SMEs (customers) on its platform only after a video Know Your Customer (v-KYC), it stated.

The Reserve Bank of India mandated compliances will aid in preventing unauthorized users from accessing the platform and prevent bad actors from taking advantage of the platform. The process in turn supports the inclusion of SMEs in the formal economy, deepens the penetration of Digital India initiatives, and boosts credit access for the underserved segments. Tide has also issued 50,000 fully KYC RuPay cards for its members, it stated.

The company's current member-base in India reveals Gen Z and millennials display a strong entrepreneurial drive with 90 per cent members in the sub-40 age group, it stated. Early adoption of Tide's business banking services is being seen across Maharashtra, Uttar Pradesh, West Bengal, Bihar, and Rajasthan.

The platform is garnering adoption from small Mom & Pop shops, small restaurants and solopreneurs like Actors, Bakers, Beauticians, Doctors, Physiotherapists, Teachers, Business Coaches, Insurance Brokers, Accounting & Tax professionals. Gurjodhpal Singh, CEO, Tide (India) said Tide believes that the success of a financial platform lies in being agile and compliant at the same time. "While we are on track to achieve our target to onboard 10 lakh SMEs by the end of 2024, we are not losing sight of compliance at any point during this journey," Singh noted.

With 9 per cent of the SME market share in the UK, Tide is aiming to expand its presence in the Indian SME ecosystem across Tier 1, 2 and 3 cities. In the coming months the fintech is set to launch a suite of tailored products including a business savings/current account in partnership with a bank, QR code for payments, bank transfers, invoicing, GST, pay by link, and credit services, it stated.

(Source : Financialexpress.com – 19/04/2023)

MARCH'S EMPLOYMENT FIGURES MUCH DISAPPOINTING



The fall in the employment rate translated into a 2.6 million fall in absolute employment between December 2022 and March 2023. Most of this fall was in March 2023.

Headline labour market metrics of March 2023 turned out to be disappointing. The unemployment rate climbed from 7.5 per cent in February 2023 to 7.8 per cent in March; the labour participation rate fell from 39.9 per cent to 39.8 per cent and the employment rate dropped from 36.9 per cent to 36.7 per cent in the same months.

India's unemployment has remained elevated throughout 2022-2023. Each of the quarters of the year had an unemployment rate of over 7 per cent. The average monthly unemployment rate during the fiscal was 7.6 per cent. The first half averaged at 7.4 per cent while the second half saw the unemployment rate rise to an average of 7.8 per cent. Trends during the year do not suggest any mellowing of the unemployment rate. The labour participation rate (LPR) seems to have settled at sub-40 per cent levels in 2022-2023. This is lower than the 40.1 per cent LPR in 2021-2022. The LPR climbed well towards the end of 2022, but this increase in labour in the labour markets seems to have caused a spike in the unemployment rate.

The LPR had peaked at 40.5 per cent in December 2022. This led to the unemployment rate spiking to 8.3 per cent in the month. The markets couldn't offer the jobs corresponding to the rise in LPR. The LPR rolled back in January 2023. The labour markets have been weak during the last quarter of 2022-2023. The LPR has lost substantial ground as it fell from 40.5 per cent in December to 39.8 per cent in March 2023. The fall in the unemployment rate during this period is small - from 8.3 per cent to 7.8 per cent. The weakness of the labour markets is best reflected in the employment rate. The employment rate fell from 37.1 per cent in December 2022 to 36.7 per cent by March 2023. This fall in the employment rate translated into a 2.6 million fall in absolute employment between December 2022 and March 2023. Most of this fall was in March 2023.

Employment fell by 2.27 million in March 2023. This is the net fall in employment after significant churn in the labour markets during the month. Labour has moved substantially in what appears to be shifting seasonal demand. Employment in construction fell by 9.58 million in March. This is an exceptionally large fall. It is comparable to the 11.6 million falls in employment in the construction industry in May 2021 in the wake of the second wave of the pandemic.

Employment in the industry fell from 72.34 million in February to 62.76 million in March. The next biggest loss of employment in March was in the retail trade industry. Employment here fell from 75.75 million in February to 67.65 million in March. This loss of nearly 8 million jobs again, is the largest fall in the industry since the second wave of COVID-19 in May 2021. It appears that these large declines in employment in construction and retail trade are not necessarily a fall in the demand for labour in these industries but a likely seasonal shift of labour to farmlands in preparation to harvest the rabi crop. Agriculture saw a 17.23 million increase in employment in March. An increase in employment in agriculture in March is normal.

But a 17 million surge is the highest we have seen since we started monitoring employment in 2016. The increase in employment in agriculture in March 2022 was 15 million. Earlier, it was even less. Within the agricultural sector, labour has moved from allied activities to crop cultivation. Nearly six million labourers moved out of allied activities, poultry, plantations and fishing into crop cultivation. This is a clearer indication of movement of labour for harvesting the rabi crop. The addition of labour into crop cultivation was a massive 23 million in March. This massive movement of labour from one sector to another within short time intervals reflects the extraordinary mobility of labour in response to demand in India.

But it also reflects the large informal and precarious nature of employment. It remains moot whether the construction and retail industries can afford to release labour in such large quantum during harvest periods. Can labour go back to these industries after the harvest and can these industries remain correspondingly in limbo in the meanwhile?

The average monthly variation in employment in agriculture is 0.28 per cent but the standard deviation of this variation is large at 5.5 per cent. The median monthly variation is -0.63 per cent. Agriculture absorbs labour in large parcels in some months and then releases labour after just one month in smaller parcels over multiple months.

This explains these descriptive statistics. In March 2022, it had increased labour absorption by 10.4 per cent and then shed labour by 3 per cent, 6 per cent and 6 per cent in the following three months. In March 2023, agriculture saw a 12 per cent increase in labour absorption. We can expect labour to be released from agriculture in the following 2-3 months.

Agriculture accounts for nearly 40 per cent of the total employment in India. According to the government's Periodic Labour Force Survey, it is even higher. The substantial volatility of employment in this large labour-intensive sector renders large parts of the Indian labour vulnerable.

(Rediffmail.com – 14/04/2023)

MORE PAIN LIES AHEAD FOR THE MARKETS



Finally, the month of March has come to a close, a period of stress and exaggerated market moves. Investors saw huge volatility and fear around the banking system's viability in both the US and Europe, with the Silicon Valley Bank (SVB) and Credit Suisse going bust.

There was a series of mini runs on the regional banks in the US, and the authorities had to come in to guarantee SVB depositors. JP Morgan Chase and other large American banks are trying to put together a private sector rescue of First Republic. The Additional Tier 1 bond markets got a shock when \$17 billion worth of Credit Suisse bonds were written down to zero, effectively destroying more than 5 per cent of the asset class in one stroke. Highly controversial, the write-down also seems to have violated the basic capital structure seniority principles. March also marked exactly one year since the Federal Reserve (Fed) began its hiking cycle starting in mid-March 2022), and it is interesting to see how various variables have moved in the last 12 months compared to the previous tightening episodes.

First, we saw the collapse of SVB and the biggest single-day decline (March 13) in US two-year Treasury yields since 1982. The decline was approximately 60 basis points and steeper than declines seen on Black Monday (1987), or 9/11, or even at the onset of the global financial crisis (GFC). This was followed on March 15, on fears of Credit Suisse collapsing, by the single biggest decline in German two-year yields since reunification. The only other time bond market volatility, as measured by the MOVE index, was at such elevated levels was at the height of the GFC (fourth quarter of 2008). The fear is that with the \$17 billion wipe-out in Credit Suisse bonds and the severe countertrend volatility in rates, there must be large losses sitting in the portfolios of funds, insurance companies and banks.

The moot point is whether these losses can be absorbed, or whether we are going to see more casualties. Given how skittish markets are at the moment, any sign of cascading losses among financial counter-parties can trigger another round of severe risk-off and a rush into safe-haven assets. What has been surprising is that equity market volatility has hardly risen through all this fixed-income chaos. The VIX index, measuring equity volatility, has still not reached its highs of even 2022, forget the GFC. At 30, it is nowhere near the highs of the mid-1980s, or the GFC, or during the height of Covid. Despite all the turmoil, the S&P 500 is up 7 per cent for the year and the Nasdaq is up 17 per cent. Even the Stoxx 600 in Europe is up 7 per cent. The banks are the main casualties of this stress, with the KBW banks index in the US down by 19 per cent, though the equivalent European bank indices are still up marginally.

To date, the pain has been felt far more in the fixed-income markets rather than equities, where the lower bond yields seem to have cushioned the markets. With financial conditions tightening sharply, following the fixed-income stress, equity

market investors are betting that the Fed will be forced to cut rates in 2023 itself. The same regional banks that are under pressure account for more than 40 per cent of lending in the US, and almost 65 per cent of all commercial real estate lending.

It is a given that with pressure on liquidity and survival itself at stake, lending standards will be tightened sharply among all the smaller banks in the US. This will tip the economy into a recession, probably faster than most think. In a normal recession in the US, earnings expectations typically get cut by 15-20 per cent; we are yet to see these earnings cuts in analyst numbers.

Yet equity markets are going up, celebrating the possibility that the Fed hiking cycle has come to an end. An interesting tug of war is developing between earnings estimates needing to come down and yields topping out earlier and at lower levels than investors were pricing in before the banking crisis.

What is more powerful in driving the market's outlook, yields or earnings? In all the chaos of mid-March, markets missed the fact that it was the first anniversary of the Fed beginning its tightening cycle. This has been one of the steepest hiking cycles we have ever seen, (450 basis points in 12 months) only surpassed by the 1980 cycle.

Surprisingly, the Fed is as far away from its twin objectives of 2 per cent inflation and full employment (defined as the non-accelerating inflation rate of unemployment) as it was when the hiking cycle began. We are still very far from either metric normalising. Inflation is still too high and unemployment is still too low. Over the past 12 months of the hiking cycle, the worst affected asset classes are bonds and commodities.

Oil prices are down by more than 20 per cent, copper by 10 per cent and the CRB index by 7 per cent. Gilts and EU sovereign bonds are both down by more than 10 per cent; US treasury bonds by about 5 per cent. While the S&P500 and the Nasdaq are both down mid-single digits, most international equity markets are actually up over the last 12 months at a time when monetary policy has been tightened globally.

This price action fits into the narrative of fixed income having a tougher time adjusting to normalisation of monetary policy, given how far behind the curve central banks have been, and the starting point of normalisation, with negative real rates across the world.

We all know that monetary policy works with a lag, though the extent of the lag is unclear and varies. In this cycle, what we have seen is that gross domestic product in the US is tracking weaker than in any other interest rate cycle. This is also the weakest performance for the S&P 500 in the first year of a hiking cycle (going back to 1955: Source DB). The core CPI has also declined only slightly more than the average for the first 12 months of hikes, despite beginning this cycle from much higher absolute levels.

The ISM manufacturing survey has already moved below 50, much quicker than the norm in prior cycles. US M2 money supply has begun to contract, something we have not seen in prior cycles. Just as this indicator peaked at more than 25 per cent year-on-year growth, which was unprecedented, during Covid, a contraction is also unusual and not seen before.

What is also clear is that when you look at the Fed's favoured indicators of inflation be it the core personal consumption expenditures (PCE) or core services ex-housing PCE inflation, the improvement is marginal in the last 12 months or even three months, and we are still running way above the Fed targets. It has been a month for the history books. Huge volatility and financial system stress.

The first systemically important financial institution ever needing a bailout; the largest ever wipe-out of a bond category; a bank collapsing in a matter of hours due to the ability to withdraw money with a click. All one can say is that major losses are still sitting in unknown books. It is highly unlikely we can sound an all-clear. Expect more episodes of heightened volatility and stress to hit the markets. Caution may be the need of the hour.

(Rediff.com – 19/04/2023)

:-JILTA:-

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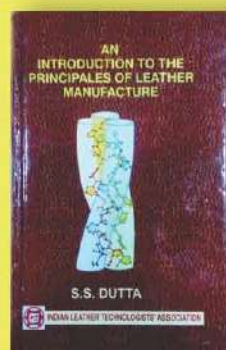
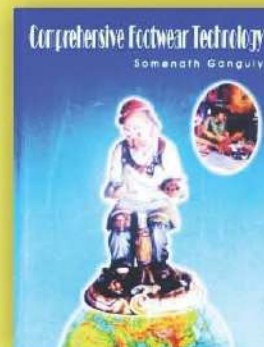
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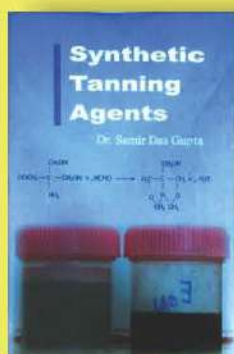
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Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and Chemists Societies]

'Sanjoy Bhavan', 3rd Floor, 44, Shanti Pally, Kolkata- 700 107, WB, India
Phone : 91-33-2441-3429 / 3459 • WhatsApp +91 94325 53949
E-mail : admin@iltaonleather.org; mailtoilta@rediffmail.com
Website : www.iltaonleather.org

History and Activities of Indian Leather Technologists' Association

Registration No. KOL RMS/074/2022-24

The Indian Leather Technologists' Association (ILTA) was founded by Late Prof. B. M. Das, the originator of Das-Stiasnay theory and father of Indian Leather Science on 14th August' 1950. The primary objectives of the oldest Leather Technologists' Association which celebrated its Diamond Jubilee year in the 2010, are:

- To bring all concerned with the broad spectrum of the leather industry under one umbrella.
- To organize seminar, symposium, workshop in order to create information, knowledge and latest development for the benefit of all concerned. To offer a common platform for all to interact with each other in order to understand each other's problems and prospects.
- To publish monthly journal as a supplement to those above objectives. The monthly journal of ILTA is known as journal of Indian Leather Technologists' Association and is the most widely circulated technical journal concerning leather technology.
- To publish text books for the benefit of students at various levels of study, for the researchers and industry.
- To have interface between urban and rural sector.
- To assist Planning Commission, various Government Institutions, Ministry and autonomous bodies to formulate appropriate policies acceptable and adoptable to the industry.
- To organize practical training and to provide skilled manpower and to motivate good students for study.
- To conduct activities related to the growth of the export of leather and leather goods from India.

ILTA also organizes Prof. B. M. Das Memorial Lecture every year during the Foundation Day Celebrations on 14th August and Sanjoy Sen Memorial Lecture on 14th January, the birthday of our late President for several decades. Many reputed scientists, industrialists and educationists have delivered these prestigious lectures. Foreign dignitaries during their visits to India have addressed the members of ILTA at various times.

ILTA have published the following books:

1. An Introduction to the Principles of Physical Testing of Leather by Prof. S. S. Dutta
2. Practical Aspects of Manufacture of Upper Leathers by J. M. Dey
3. An Introduction to the Principles of Leather Manufacture by Prof. S. S. Dutta
4. Analytical Chemistry of Leather Manufacture by P. K. Sarkar
5. Comprehensive Footwear Technology by Mr. Somnath Ganguly
6. Treatise on Fatliquors and Fatliquoring of Leather by Dr. Samir Dasgupta
7. Synthetic Tanning Agents by Dr. Samir Dasgupta
8. Hand Book of Tanning by Prof. B. M. Das

ILTA presents awards in the name of Prof. B. M. Das Memorial, Sanjoy Sen Memorial and J. M. Dey Memorial Medals to the top rankers at the University graduate and post graduate levels. J. Sinha Roy Memorial Award for the author of the best contribution for the entire year published in the monthly journal of the Indian Leather Technologists' Association (JILTA). From the year 2023 ILTA has started to present a Scholarship namely Prof. Moni Banerjee Memorial Scholarship to a Student of B. Tech / M. Tech Leather Technology who is meritorious but financially crippled.

ILTA is the Member Society of IULTCS (International Union of Leather Technologists' and Chemists Societies) which is a 125 years old organization. The International Congress of this union is held in different locations of the world once in two years. In its 125 years history, for the first time the Congress was held in January 1999 outside the developed countries and that too in India at CLRI, Chennai. Indian Leather Technologists Association organized the Congress under the able leadership and guidance of Late Sanjoy Sen, the then President of ILTA and IULTCS and Dr. T. Ramasami, the then Vice-President of ILTA and Director, CLRI, Chennai. In 2017 IULTCS Congress was successfully held again at Chennai, India for the second time. In order to promote and provide marketing facilities, to keep pace with the latest design and technology, to have better interaction with the domestic buyers, ILTA has been organizing LEXPO fairs at Kolkata from 1977, Siliguri from 1992 and Durgapur from 2010. To help the tiny, cottage and small-scale sectors industries in marketing, LEXPO fairs give the exposure for their products. Apart from Kolkata & Siliguri and Durgapur, ILTA have held LEXPO at Bhubaneswar, Gangtok, Guwahati, Jamshedpur and Ranchi. In commensurate with the time, demand and new perspective of the modern leather users, ILTA has started to organize LEXPO at Kolkata from 2022 in a new shape with the Manufacturers and Exporters of Leather Goods from all over India.

ILTA has celebrated its Golden Jubilee with a year-long programme from 14th August' 2000 to 13th August' 2011 along with the first conference of South East Asian Countries at Netaji Indoor Stadium, Kolkata.

ILTA has also celebrated its Diamond Jubilee with a year long programme from 14th August' 2010 to 13th August' 2011 which included National Seminars, B. M. Das Memorial Lecture, Sanjoy Sen Memorial Lecture, Moni Banerjee Memorial Lecture, Y. Nayudamma Memorial Lecture and 3 day's AICLST (Asia International Conference on Leather Science and Technology) at Hotel 'The Stadler' at Salt Lake City, Kolkata.

The Association's present (as on 31.03.2023) strength of members is around 550 from all over India and abroad. Primarily the members are leather technologists passed out from Govt. College of Engineering and Leather Technology – Kolkata, Anna University – Chennai, Harecourt Butler Technological Institute – Kanpur, B. R. Ambedkar National Institute of Technology – Jalandhar and Scientists and Research Scholars from Central Leather Research Institute (CLRI).

In order to strengthen its activities, ILTA have constructed its own six storied building at 44, Shanti Pally, Kasba, Kolkata – 700107, West Bengal, India and have named it as "Sanjoy Bhavan".

This Association is managed by an Executive Committee duly elected by the members of the Association. It is absolutely a non-profit making voluntary organization working for the betterment of the Leather Industry. None of the Executive Committee members draws any remuneration for their services rendered but they get the satisfaction of being a part of this esteemed organization.



Indian Leather Technologists' Association

[A Member Society of International Union of Leather Technologists' and

'Sanjoy Bhavan', 3rd Floor, 44, Shanti Pally, Kolkata- 700 107, WB, India

Phone : 91-33-2441-3429 / 3459 • WhatsApp +91 94325 53949

E-mail : admin@iltaonleather.org; mailtoilta@rediffmail.com

Website : www.iltaonleather.org