A BRIEF INSIGHT INTO THE INTERNSHIP LEARNING EXPERIENCES AT AAKSH BEVERAGES PRIVATE LIMITED

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ABSTRACT

My internship at Aaksh Beverages Private Limited, Mumbai, India provided me with a profound comprehension of the manufacturing, blending, and packaging strategies and techniques pertaining to the production of instant coffee for supplying to international markets. The key goal of my assignment was to recognise and solve the problem of granular breakage and dust formation in packed instant coffee, which had impacted the aesthetic quality and consumer satisfaction levels particularly among European and other global customers.

By working together with the Production, R&D, and Quality Control teams, I took part in a structured problem-solving strategy pertaining to data and information accumulation, examination, process standardisation, and machinery transformation. My contributions included investigating coffee blend densities, reviewing the effect of raw material deviations and differences, and aiding in tests to optimise the blending, filling, and packing line for instant coffee efficiently.

The task led to the formulation of a System of Process (SOP) that standardised procurement, blending parameters, and storage norms. Further, mechanical refinements like the introduction of a heating tunnel, nitrogen filling, and a redesigned blending system immensely reduced coffee granule breakage and dust formation.

This internship learning experience enriched my technological horizons of industrial coffee processing, enhanced my analytical and collaboration skills, and provided a beneficial brief insight into the actual world problem-solving in a beverage manufacturing setting.

INTRODUCTION

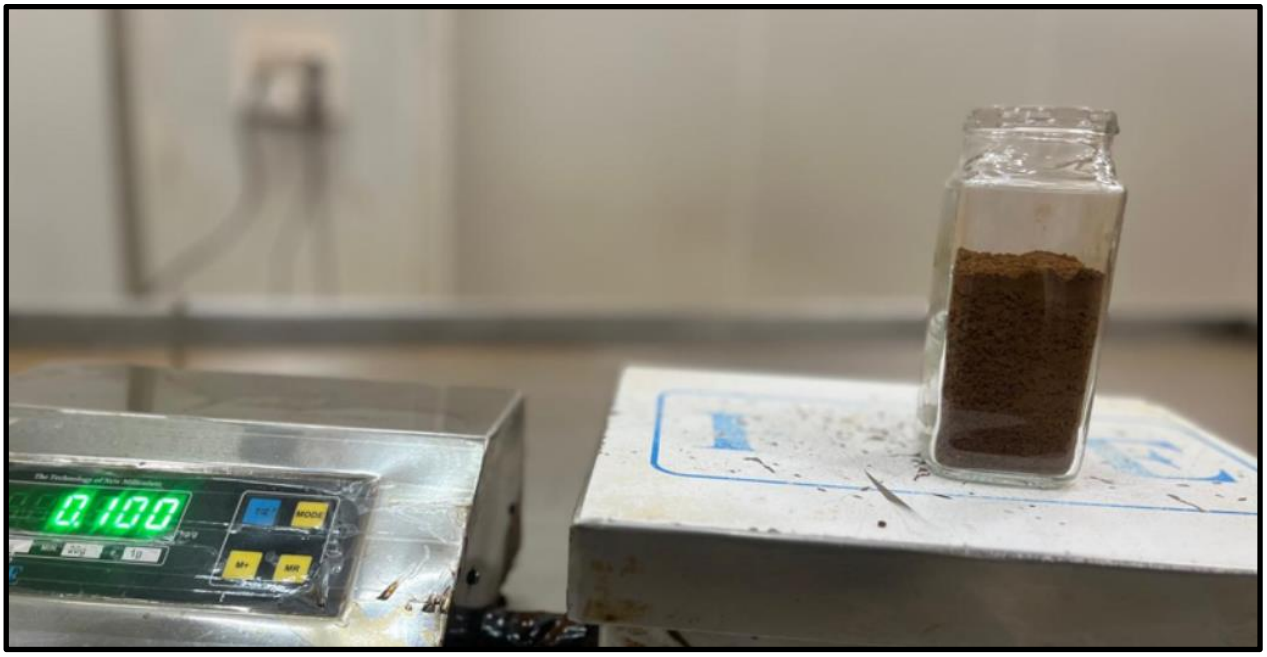
This internship was done for Aaksh Beverages Private Limited, Mumbai, an Indian based company involved in blending and packaging of Instant coffee for its International buyers in Europe, the Middle East, the Gulf Countries and the African region.

This experience was a special one for me because the company Aaksh Beverages Pvt. Ltd. was started by my father Mr. Preshit Rajeshirke. During this project, I got the opportunity to work with Aaksh's production and R&D team to develop a product-specific filling activity.

Aaksh Beverages Pvt. Ltd. is a 17-year-old company dealing in the manufacturing and packaging of instant coffee, marketing its own brand ' Aveon café ' and white labels in instant coffee for many supermarkets and importers. The company's strength lies in packing and blending coffee using various packaging materials comprising different compositions and sizes.

I availed myself of this opportunity to work on this project when the Aaksh production team was operating on a filling line for efficiently packing coffee granules in glass jars to avoid breakages of instant coffee granules, and to pack dust-free coffee jars. The company had earlier received complaints from a few clients especially from the European region, where the aesthetic value of packaging is very important on the shelves of supermarkets. The dusty or powdery instant coffee packs hampered sales of clients in comparison to leading brands like Nescafé, Davidoff etc.

Bulk Instant coffee is powdery due to a Packing Machine Flaw



Clients’ complaints due to granular instant coffee breakage in the packaging

STEPS AND APPROACHES FOR PROVIDING THE SOLUTION

Aaksh team has a set approach to address clients' complaints by following certain norms and steps to remove the root cause of problems. I was fortunate enough to be part of this project at the starting point, where documentation and approach methods were developed. Please go through the process in the following information and my contribution to the project.

The information collected and analysis on the above subject has helped the Aaksh team to make SOP (System Of Process) of blending and packing while filling a particular kind of blends, and also while blending various instant coffee varieties.

The various step approaches are listed here:

Step Approach 1:

Data centre and collection methods: The first steps of the project were information collection from previous production records and data records of the R&D department, which were collected from different sources in the factory and compiled so that the next steps could be initiated. The major points of data collection are as follows:

- Customer Feedback information
- Traceability reports of problematic shipments
- No. of shipments or batch size
- Identifying blends and suppliers that cause more issues
- Flow chart of problematic blends
- Comparing differences in blends along with competitors' blends

My Role:- I was involved with team member Mr Ashish Yadav (Sr. Executive R.M. & Store Email – store@aaksh.com), to collect data through different departments and in formats sourced from Tata Consultancy Services Ltd E.R.P. system. We took 10 working days to collect the same and organise it in formats.

Step Approach 2:

Analysis of the issue: Data collected in approach 1 is presented to a team for further analysis. The team consisted of members from Marketing, Production, R&D, R.M. & Store and Maintenance. The team was headed by the factory Head and Director Mr. Prashant Sorte (prashant@aaksh.com). Through data crunching and analysis along with customer-specific complaints, the team has laid down an approach towards understanding issues at the level where vendors and suppliers were involved to make close observation in the following activity to develop mechanisms to solve at every level to get optimum solutions.

- Raw material analysis
- Storage and movements of raw material
- Process activity – blending and mixing

- Filling and packing
- Finish goods storage and handling

During the project, I have been allotted the responsibility to find out shortcomings in 1st three activities and part of the Aaksh R&D team to get mechanical solutions in the next 2 activities. Also, calculating the density of various Instant coffee blends along with understanding the mechanism of blending and mixing.

My findings:

A) Aaksh procures instant coffee in bulk cartons from various instant coffee manufacturers which makes the product different in sizes, colour and density therefore standardisation of procurement as per Aaksh's requirements needs to be implemented
B) It was observed from the factory store department that Instant coffee bulk cartons have no standard pallet size as well as a level of carton storage
C) Instant coffee movements were observed while inward and outward movements from the store department were up to mark and not causing any issue in granular breakages.
D) Blending and mixing activity was observed with the R&D team and discovered that this activity needed specialised developing machines to serve the purpose of soft blending and mixing. Standardised market available blenders used by the industry will not be appropriate for Aaksh Beverages.

Different colours and textures of instant coffee blends make blending and mixing more challenging. The strength of coffee granules varies as per the manufacturer's production system and practices.

Density supplied by the vendors in the range of 200 to 220 per litre, after the step approach implementation

Density supplied by the vendors in the range of 270 to 300 per litre, before the step approach implementation

Understanding the issue: After analysing all coffee blends and the process of packing, the R&D team and I understood the major reasons behind creating dusty and powdery products, and the factors that need to be taken into account for finding a sustainable solution.

1. Concentrating on coffee and its varieties will not solve the issue
2. Glass Jar temperature and moisture content need to be considered before packing
3. Standardisation of raw material and Coffee blends
4. Mechanics/utility needs to be developed in-house as per company requirements

Step Approach 3:

Designing a road map: We as a team worked towards bringing processes together to develop an SOP (System of Process) to get one-time solutions to this issue. After consulting with various stakeholders like Suppliers, machine manufacturers and Technical consultants the following roadmap was developed to reduce issues to less than 5% of the original size. The guidelines and process details are as follows:

- Standardisations of Instant coffee procurement with the following terms (with COA Image)
  - o Textures
  - o Density of product to 220 to 240 per litre
  - o Standard Colour Ph level range (to be mentioned)
  - o Standard pack size of 20 Kg Carton

- Norms for storage and movements of raw material
  - o Standard Pallet size (to be mentioned with photos)
  - o Matrix of storage on pallets is fixed as per product density
  - o Goods storage and movements plan as per the pack house station
  - o Ambient temperature at the storage place

- Blending and Mixing Equipment's
  - o A New Design for blending and mixing is developed with the consultation of industrial technical consultation (Drawing of Machine)
  - o With this new equipment Aaksh can easily mix different forms of instant coffee especially agglomerated instant coffee with minimum breakages'
  - o This machine is directly connected to the hopper making the product tamper-proof and getting directly into to feeding weighing scale
- Modification automatic filling and sealing line
  - o We as a team have introduced a heating tunnel system before the glass jar enters in cleaning and UV tunnel to make the glass jar moisture-proof and make coffee free flow inside the glass jar
  - o Introduction of nitrogen filling before sealing of the glass jar makes coffee intact and creates a free flow cushion inside the glass jar.

Coffee weigh filler developed as per requirements and standard

Changes in the packing machine setup as per the step approach suggestions

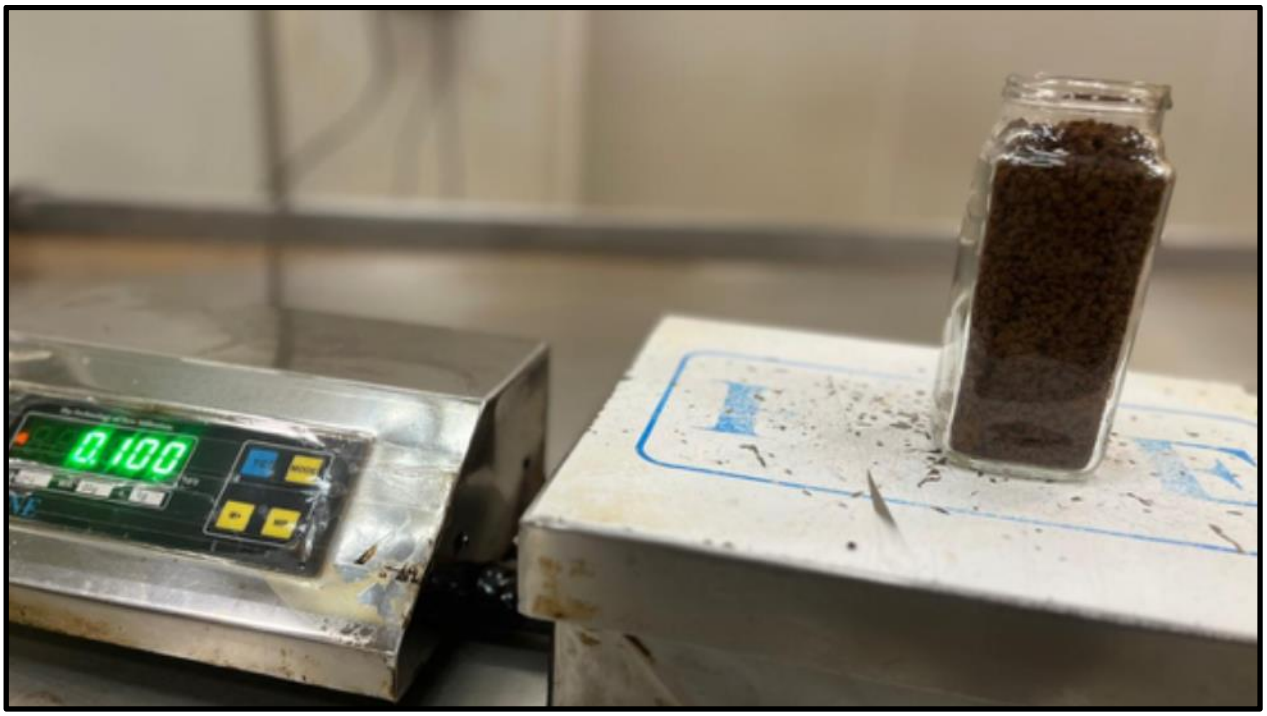
Step Approach 4:

Trial, error and execution: This was the second last stage of the project where process work design was implemented for a trial shipment to analyse the performance of the new design setup. I have been responsible along with the QC member team for gathering data on the trial period and updating the same to the QC team. The production team made the following changes with available machines and equipment to make a trial run.

- Used improved granule product for trial run and also made trial run for regular granular product at a different batch for measuring parameters
- Changes packing lines as per the flow of granular like change flow of granular coffee from 45 degrees angle to an earlier one of 90 degrees from the hopper
- Maintaining humidity level in the pack house below 40 RH and temperature at 25 degrees
- Measuring the product through random sampling every hour of production

Q.C. The team and the R&D team worked in tandem to analyses the packing process and the sample collected from trial error steps. The collected data helps management to arrive at a decision for making permanent changes in the packing and blending setup. Learning and finding have been used in designing a new setup for Aaksh Beverages Pvt. Ltd.

First trial of instant coffee granular passes from an improved weigh filler where granules are intact and a minimum increment in the density of coffee



Final improvement in product appearance and density after the filling line machine changes

Successful implementation of the step approach