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"Sevana"
An Attribute of Conceptual and Revolutionary Transformation
A suggestive model of grass root economy transformation through process innovation

Umesh Neelakantan

Case Abstract
The case highlights the importance of the effectiveness of operations management. The description of flow of the case underlines the improvements and prospects modelled through the efficiency of production and operation systems.
Resources available at the grass roots were posted for interventions strategically and operationally. An economy which was unavailable for revenue generation was put into an interventional system through a conceptual back up. The concept of "Decentralised manufacturing" applied along with social skills articulated the beginning of a new thinking in industrial circles. A village "not identified" as prospective in industrial thought was made prospective through entrepreneurial instincts.
Sri. C.P Philipose (CPP) had faced many hardships since childhood from the time and society. That never stopped him in becoming an Entrepreneur. Kizhakkambalam was not so much known for entrepreneurship and social interventions, but CPP transformed them into an enterprising platform for new avenues. The Sevana model is proved to show a successful industry without employees. The parent company – Sevana was victorious in keeping the synchronisation of entrepreneurship inside and outside the company.
CPP's idea also supported 400 other families who supply them spares and assembled parts. The production was in the hands of local people, but still Sevana kept the quality standards promised to the customers. Since inception, the company had grown big and have 15 branches which includes one each in Colombo, Srilanka and Nairobi, Kenya.
The case emphasises the role of need based Product portfolios relevant for grass root economy. The sub verticals have effectively made its role into Packaging machines, Medical needs, Home needs, domestic decorative interests. These were possible only through the viable alternatives resourced and backed up by excellent research and development attributes. The very important attribute of Sevana model describes the presence of "trustful technological, human and social skills".

Key words: *Operations, Packaging, Grass Root Economy, Entrepreneurship*

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The Plight of a Village

Assets capitalized establish as a monument for others, not to "just look upon". The market had no money to encash upon. Rich starved, with no liquid money on hand. The pursuit of excellence had to be dug from the wounds of the remain. Kizhakkambalam village, which is approximately 17 kilometers from Ernakulum (Kerala, India), was a sleeping village until 1980's.

Script of imaginations evolved towards reengineering the domain etiquettes of a village. The characteristics of natural resources provided the necessary attributes. To the core, till 1980's Kizhakkambalam was a village boasting of its sense credentials in agriculture only.

Evolution of industry and Sevana in Kizhakkambalam– ***a very small overview***	**Profile of Kizhakkambalam**
Industrial context came into life from the year 1970 - 1971 Sevana commenced by C.P.Philipose (CPP) in the year 1984 Sevana – Group manufactures and markets Sealing and Packaging machines, Medical and surgical products, Home utensils, Interior decorating products	Kizhakkambalam is a Village, 17 kms away from Kochi. Population in 1970 – approx.11,000 Population in 1984 – approx. 21,000 Population in 2001 – approx. 30,000 Population in 2011 – approx. 50,000 Kizhakkambalam, was a village dominated by agriculture. In 2011, there are around 50 enterprising establishments functioning.

All the figures given in the table are gathered by CPP for the authors from the Kizhakkambalam panchayath.

Sevana's status quo and journey

Sevana touches over 400 hundred families in and around the village. The enterprises' horizon is located where; vendors supply ancillaries, mothers units deliver assembled products and the company ensures product quality at every stage of manufacturing and other service operations. The quality assurance wing through a thorough check ensures the quality standard of the products. The company didn't forget to continuously improve the quality parameter of the products and kept sensitized with the changed market prospects.

The Need for Packaging

As the economic development was catching up the companies, one of the major headaches they faced was the not so good packaging of products. The products got damaged due to oxidation, attack of rodents, microbes and the like depends on the type of the product. That rang a bell in the brain for some entrepreneurs and they transformed the idea to business. A considerable amount of damage can be eliminated by proper packaging and storage.

It took some time for the under developed or developing countries to taste the good packaging and storage technology. One of the main reasons was the cost of these technologies, which was far reachable for the developed countries.

Sevana with its engineering know how and sound manufacturing practices took up the mission to find a solution to the innumerable packaging hardships faced by the industrial units and other need based customers. CPP grabbed that opportunity and started to develop packaging machines and other packaging lines of superior technology and quality, at affordable price to under developed and developing countries.

The Learning Curve

Learning – Is it contextual or conceptual? The state of resources in a society syncs with the demographic profile, geographic sensitivity and psychographic mindset of people. Real beginning of a mission needs to analyse and interpret the best possible permutations and combinations available in a society. These are related heavily with the pros of individual's interest, base support systems, instincts of desire and the content profile. The transit from book binding to Sevana in Kizhakkambalam resembles the sense of gratitude and proactiveness of CPP.

Pursuit of C.P.Philipose (CPP)

Philipose was born in 1943 in a female dominated family, in a village called Kizhakkambalam. Effect of poverty in domestic households made its stride into this family also. It was very hard to pay even one rupee ad 25 paise[i] as fee for a middle school registration and six rupees for high school was hard to digest.

The hardships forced CPP to work at a local village press as book binder at the school going age. His earnings of five to six *anas*[ii] per month were supplementing his grandmother in managing the household expenses and his other educational interests. The Tahsildar stood between subsidized education in a school at Kizhakkambalam and a low income certificate. The price for appeasing him was ten rupees; and young CPP didn't know the way to bribe nor he desired to do that.Hence, he decided later that government job is not a wealth attribute for his qualitative career prospects. Looking at the perceptions of the government servant's *(which he had seen through all his life),* he decided that something more instrumental than government controlled systems had to be enunciated and stepped forward for an entrepreneurial drive.

Shri M.V.Mathew, the then Headmaster of Rajarshi Memorial High school, Vadavoor was the person who discovered the potential of CPP. He arranged scholarship, which added up to the money CPP was bringing by doing book binding. Mathew sir was known for his concern for social issues and the initiatives he had taken to solve those. CPP affirmed his Headmaster's belief and came out topper of the school.

The students of Kizhakkambalam were evolved from diverse family background and differed in using education through different facets of life. There were students who belonged to high and rich families who came by cars, while others walked to the school. For CPP, he was eight kilometers away from the village school, which he used to walk. The school authorities as well as his teachers were kind enough in providing extra working hours for the below average and average students beyond the usual timings of 10 am to 4 pm.

CPP had great interest for reading and especially showed great inclination towards aspects related to electricity and electrical gadgets. The public library at Vadavoor was fully utilised by him. He was judged as an above average student. That inclination enroute him further to reach the prestigious Regional Engineering College (REC)[iii], Warangal for pursuing his B.Tech and M.Tech in Electrical engineering. Mr. Rajan Paul, his cousin was the guiding light to REC. Mr. Rajan was known for modelling "gear box" at TELCO. The above averaged and motivated CPP was rewarded a scholarship by REC, Warangal, which sufficed 25 percent of the fee.

Profile – "Enriching by Self"

The growth of the Indian private companies in a big way was sighted in 1970 because of the newly introduced scheme of sub – contracting by the Europeans. Since tied up with Capitalists, Indian owners also acted no differently. The companies never passed on the wealth generated (though the profits were huge) to the employees. That knowledge pressed

CPP not to take up job under anyone and started thinking on “work by self”. He believed that, it was more important for an educated individual to sustain and excel.

Kerala was a state of resource which had abundant time periods of labour unrest. However, the instinct of insight made him to commence his industrial prospects.

CPP was an ardent admirer of Communism. His learning curve at REC, other personal and professional understandings made him to come out of this fascination for Communism.

The Changed Mindset

Trade unionism was at the peak in Kerala. Trade unions were killing industry. The industrial state then was Travancore. In every five years, there was labour unrest in Kerala and it was very difficult for the industry to function. A great industrial strike broke out in 1960 and every organization had to be remained closed for months. The major companies that had to be closed down were FACT[iv] (first synthetic fertilizer unit in India), Travancore Rayons (first rayon unit in Asia), 600 coir factories in Alappuzha, to name a few. The mindsets of Keralites were just in tune with a philosophy imbibed by Communists. Any asset accumulation and wealth creation was considered to be against the very basic statute of society.

The exposure at REC not only credited CPP with authentic certificates, but helped him to generate a different mindset regarding social consciousness. Further, he could foster professional relations with many people from different parts of the country and abroad. This helped him to prospect his social desire. It was noted by CPP that the then mindset of communism (prevalent in people across Kerala) was not actually helping society, but rather killing industry. He had every desire to model his interest. Another base reason for CPP’s thought was with respect to acute shortage of money in the society; people were jobless, they had disproportionate living standards, society faced acute power shortage etc. These aspects counted something imminent to be modeled.

Revelation for CPP

Almost 30 years before (with respect to the above profile of the society), CPP had an opportunity to meet Shri V.M.Unnikrishnan, his old friend from Kozhikode. He was then the Manager of Federal Bank. Unnikrishnan’s close colleague, Shri Daniel was also present during an informal meeting ***(that took place in the cabin of Unnikrishnan***). During the meeting, Daniel did quote that after sometime; there will be a time, when working class will come less (which later substantiated the profile of Sevana Model; and ***which is detailed in the later pages of this case)*** There will be requirement of new products to support the existing systems then. This meeting was the first base of discussion regarding Sevana.

CPP's Entrepreneurial instincts

Year	Industrial insights	Remarks
1970	Detergent manufacturing unit	CPP tried to re-model the European concept of civil contracting, which was a success in Europe. But it failed for CPP in India and hence closed down the unit.
1970	Waves Electronics	Hot plates, Dish washing machine, washing machines were the products Seed capital – One and a half lakh rupees from friends and relatives Business orders started to trickle in from TELK[v], Kumathara textiles (a shop in the locality) etc.
1983	Sevana Electrical Appliances Private Ltd. at Kizhakkambalam commenced	- Submitted project report to Kerala Financial Corporation[vi] (KFC), but got no financial support - The nearby branch of Union Bank of India (an Indian Nationalised Bank) sanctioned twenty five lakhs (2.5 million) for commencing Sevana.

Gist of events in CPP's life

CPP experienced the greatest challenges in his personal and professional life. CPP solely was the creator of his own destiny. There was literally nobody to mentor his journey (during the initial stages). CPP could find money for creating innovative products but was struggling hard to find revenue for daily operations. The conditions had forced CPP in borrowing money from many people to dispose wages. He played dual roles of Sevana's employer and as an employee of a Palakkad[vii] based company for a short period. The latter was to sustain his daily living for his wife and four children. His plight to Palakkad was from Monday mornings to Saturday nights. Neither Sevana nor Kizhakkambalam was an expectation to labour unrest that was spreading across Kerala during that period. One Saturday midnight, while he was returning from Palakkad. Sevana employee's *gheraoed*[viii] him. That took him as a shock as he was unaware of the purpose of *gherao*. Those who were doing were people very near and close to him. He also doubted it as a political indoctrination against Sevana.

The initial failures in CPP's journey added up value to his life and he was seasoned through them. The first time he tasted sweet was when KFC waved green flag. They released term loans for developing land, for constructing building and other infrastructure. KFC stood firm on the stand of not to sanction working capital support. Union Bank of India released rupees twenty five lacs as working capital assistance. His efforts were to manufacture electrical equipments such as hot plates, microwave oven, cloth washing machine and dish washing machines. Simultaneously, he planned to start an establishment for manufacturing sealing machines (Plastic bag hand sealers) since he learned about the need for packaging.

Reserve Bank of India axed Union Bank of India for having large pool of NPAs (non performing assets); literally cut CPP's dream. The sword was so sharp he was given just one percent of the sanctioned amount of rupees twenty five lacs. CPP had already made his mind in placing orders for machines; plans for building were ready and he even took business orders from customers. And he decided that there was no further letdown on this project.

He had to pursue activities within no time. There were several orders pending and he had to professionally cater to the clientele's desires which he had developed by then. He called an

Annual General Body meeting (AGM) and sought rupees ten thousand from each of 39 shareholders with an assured interest return of 12 percent. That burden lessing exercise paved success, since all the shareholders contributed with no hesitation. Thus he got his working capital kitty started functioning. He got the Aluminium base from Anna Aluminium, Kizhakkambalam (the first manufacturing concern of the area); like, he sourced other required resources for manufacturing machines from different places. Modeling of the machine was undertaken in a different place. Products were finally assembled and sold.

CPP thought of expediting the process of manufacturing with a professional approach. He thought of commencing a casting unit at Coimbatore. It was also noted by him that the market in Bangalore and other parts of India, was good. Kerala had almost cent percent power cut in 1986; hence no products manufactured were getting sold in Kerala. By this time CPP had commenced the manufacturing of sealing machines in Waves Electronics. Small export orders started to trickle in. The government cushions of heavy subsidies were given to exports. CPP capitalised that and cracked a deal with Taiwan for six machines. The initial time saw certain technical problems for the sealing machines.

Few instances of despair and submissions

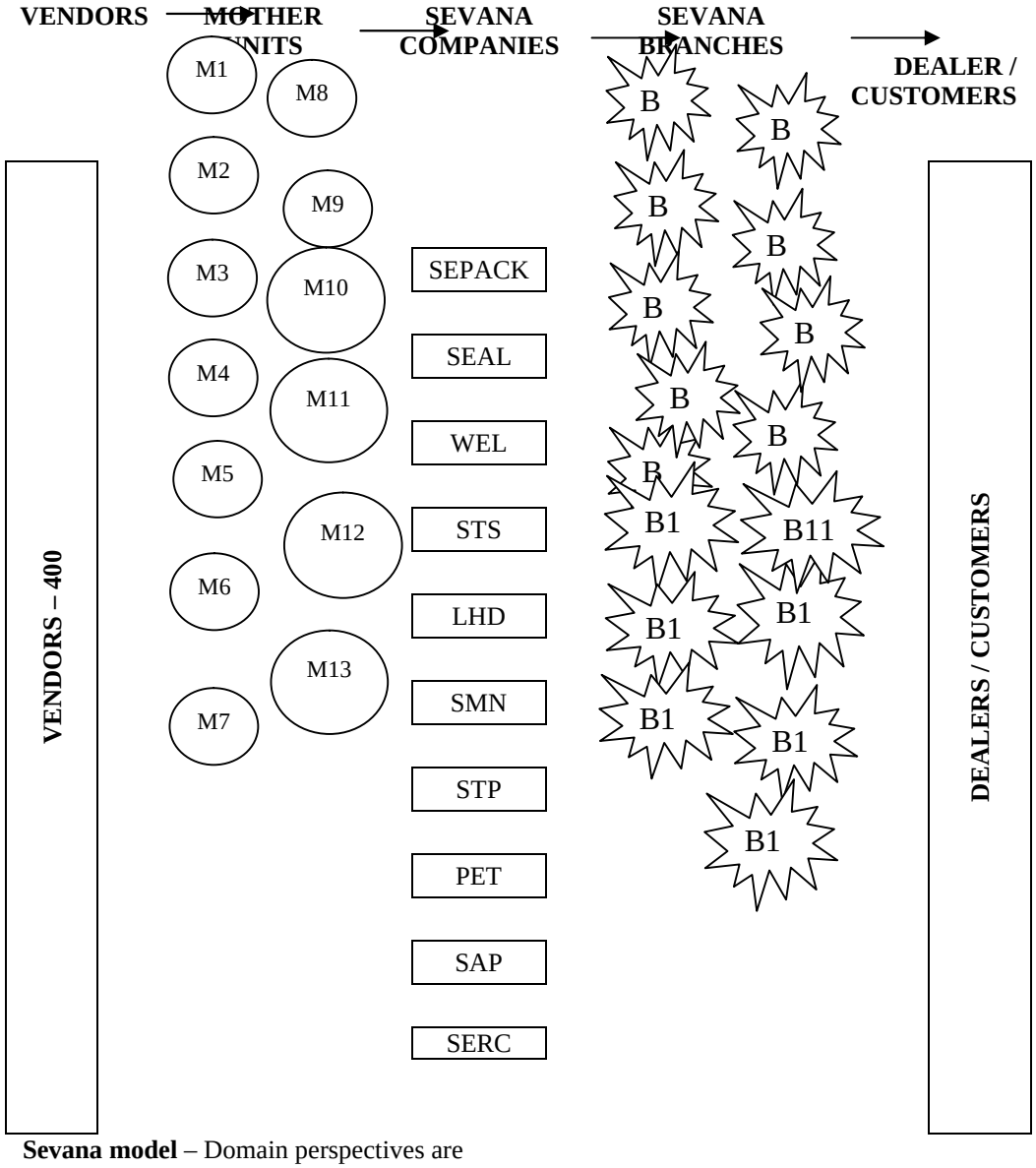
Kizhakkambalam Textiles (an initial customer for CPP) lost its machine due to low voltage and henceforth they could not pursue packing of their materials. In Anna Aluminium, there was a transistor problem in the sealing machine. It was rectified, but the problem reoccurred at 12 O' clock every afternoon. Every machine was put off and CPP found out that it was because of the voltage drop during noon. They re-installed the voltage frame of 240v-300v by installing a new transformer and it started working well. There were technical problems in machines and CPP had to regularize his interest for servicing start up machines. Even though it was a small machine with very minimum electrical components assembled, CPP had to face many technical problems. The servicing was later an added business for CPP during great hardships. Sevana now has a comprehensive wing to address service aspects.

Sevana Evolved

"Without an employer, there cannot be an employee and
without an employee, there cannot be an employer".
These are inseparable and bonded together.
A Utopian idea from CPP
Was it possible to think of an employer less industry?
Not possible since ultimately government will be the authority
since all systems are under the control of the government.
Henceforth, Can we think of an employee less industry?

The above thought was quite inquisitive in CPP's mind. The reasons were 1) on one side, the society perceives any new venture as a base of "Wealth creation". Hence the equation of individual (as an employer) with another individual (who supports the function operationally) will not be very sound. 2) The second profile of an individual (employee) with a communist mindset may not really fit in since the behavioral mindset of the society. Shri. Daniel, whom CPP placed as one of the Directors suggested the model of **Decentralized Manufacturing**

How does Sevana Model Work?



Sevana model – Domain perspectives are

1) The products evolved through market perceptions and interests are designed under the professional purview of Sevana Engineering Research and Development centre (SERC) thus transforming creativity and innovations into invention.

2) "Technological knowhow" is then imparted for generating physical products through enterprising Mother units *(Mother units – concept briefly explained later)*

3) The vendors, which are around 400 families and above, in and around Kizhakkambalam village, supply spare parts and assembled products to mother units. Sevana, the parent company would source all the required spares and assembled modules for mother units. The vendors directly supply them to the mother units. The company was continuously in the hunt for finding out vendor expertise so that defective spares and assembled products can be reduced.

4) Production plan on an annual, quarterly and monthly basis was prepared (permissible deviation was 20 percent either side) and communicated to all mother units. The mother units then prepared the periodic plan and would act accordingly. On emergency requirements (like bulk orders), extra sops were extended.

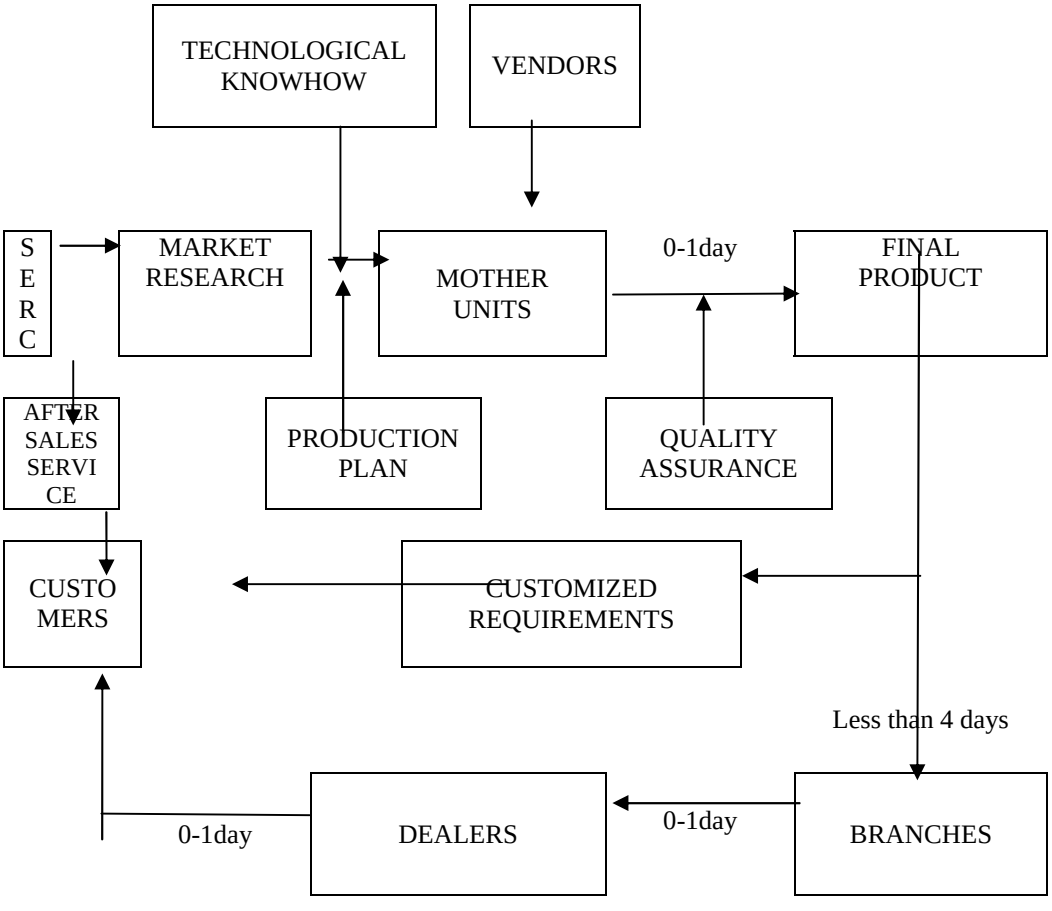
5) Quality assurance teams (constituted by Sevana) had routine methodical checkups to ensure product quality before the prospective order transfer to the warehouse. The process was standardised at every stage of manufacturing.

6) Products are then physically transferred to different branches of Sevana and then to dealers and customers.

7) Direct sales happened at Sevana when it was a customized or tailor made requirement.

8) SERC was the wing looked after the service requirements of the products. The research centre ensured in sorting out all physical distrust in their products. There are specialised authorised service centres (ASC) to support Sevana. ASC as well dealers were trained with every new products or service.

SEVANA PROCESS FLOW CHART



The Vendors: They supply the sub parts for assembling different machines. There are many small families living in the village of Kizhakkambalam, who earned a regular fair level of income by supplying the “need based” sub parts for Mother Units.

Sevana's "Mother Units"
Mother units are separate SSI[ix] units. They have the license to manufacture. These are different manufacturing bases for Sevana model. They manufactured and assembled machines for Sevana. Mother units have to initially pay rupees ten thousand as cash for which 12 percent interest was given as per prime lending rate. A bond agreement of fifty thousand rupees was entered into, between the management of Sevana and the owner of Mother Unit. Sevana passed on the technical knowhow over that trust agreement. The qualitative term of mother unit was coined as a "support" to Sevana, showed the sensitivity for "shared innovations". Dissemination of these creative thoughts were said to produce the reality of Sevana model for its social and business contributions. The mission transformed the society by enriching the concept of "work and earn". The parent company has a transparent credit rating procedure with Mother Units, with zero tolerance level of disparity. The details are given in the exhibits. These units establish scope for self employment. A very remote threat for Sevana was the chances of Mother Units becoming competitors.

Customers – Sevana customers have different options to get Sevana products. Dealers are the primary level of understanding for Sevana. Dealers are also technically competent to handle service grievances, if any. Sevana has also established its rapport in the market through the commencement of Authorised Service centres.

Authorised Service Centres (ASC) – Great relevance has been spelt by Sevana through the commencement of ASC. It acts as a bridge for Sevana to act faster in the market. Sevana's thrust has been to win the trust of its customers through "quality technical maintenance". ASC is a concept floated as an arrangement for self motivated and technically sound individuals to consistently earn a livelihood. ASC's makes sure of those technical grievances of Sevana's products to be solved, if highlighted by a customer and is not settled within the said time. There are around 175 ASC's for Sevana in India.

Sevana companies	**Abbv.**	**Sevana companies**	**Abbv.**
Sevana Electrical Appliances Pvt Ltd	SEAL	Sevana Toys Pvt Ltd	STP
Waves Electronics Pvt Ltd	WEL	Polyguards Equipments & Tools Pvt Ltd	PET
Sevana Trades & Services Pvt Ltd	STS	Sevana Agro Products Pvt Ltd	SAP
Low Heat Driers Pvt Ltd	LHD	Sevana Engineering Research Centre Pvt Ltd	SERC
Sevana Medineeds Pvt Ltd	SMN	Sevana Packaging Systems Pvt Ltd	SEPACK

Sevana Engineering Research Centre Pvt Ltd (SERC) – Sevana had heavily invested in research and development. The research perspective impetus had been the key for the look out of Sevana for creating new product avenues for the market. Each product developed had been able to get synchronized with the "need" element of the market. There were real needs in the market, which was sourced through earnest initiatives consistently. An effective programmed and structured approach was made relevant as a known identity for finding out the impending needs of the market. There were constant endeavours on the part of Sevana in fine tuning its specified vertical SERC. The emphasis of all researches undertaken had been Sevana's growing proximity and commitment towards grass root economy requisites. This centre of excellence seems to have created need based operational stream of activities.

Sevana believes in

? Providing packaging solutions to improve bottom-line results for packaged products and brands.
? Improving operational processes with effective solutions.
? Identifying problems and solutions quickly and systematically.
? Reducing wastage and cycle time.
? Equipping companies with effective packaging and supply chain management methods.
Source: Sevana website[x]

Sevana machines were designed to streamline the production flow of an enterprise efficiently. It focused on economising its manufactured products and helped customers meeting the targets. Sevana products are engineered to keep consistency in package quality, for quick and simple operations to suit any production lines and for low maintenance. Sevana machines were effectively tailored to meet the specifics of the establishments.

Sevana quality concept was not extended to product quality alone. It ensured pre-sales consultancy, prompt delivery, after sales support, user training, accurate installations, immediate parts availability, dependable service and constant interaction with customers for other requirements. Sevana values and encourage any feedbacks about the present product line up or about the products for the future, be it technical, user experience, production expectation or anything from raw material to adding or modifying features.

Exhibit 1: SEVANA – Value system
Mission - "Your Packaging Partner"
It says all. Sevana builds and assembles comprehensive packaging solution with customer partnering with a passion for innovation, quality.

Vision
To lead the world packaging market with innovation, quality, customer partnering, support, operational excellence, international best practices and world-class competitive strengths.

Our Values
As a company, and as individuals, we value:
o Integrity and honesty
o Passion for customers, for our partners, share holders and for technology.
o Openness and respectfulness.
o Taking on big challenges and seeing them through.
o Constructive self-criticism, self-improvement, and personal excellence.
o Accountability to customers, shareholders, partners, and employees for commitments, results, and quality.

Top of Form

Source: http://www.sevana.com/index.php/en/about-sevana assessed on 7-Jun-‘12

Exhibit 2: Sevana Domains and Verticals
Sevana Electrical Appliances Pvt Ltd (SEAL) : SEAL at Kizhakkambalam is the parent company. CPP had his interest attributes listed for converting Sevana model as a professionally focused one initially through SEAL. SEAL Company manufactures sealing and packaging machines. The repositories of conceptual backups authenticate the progress and development of this company.

Sevana Trades and Services Pvt Ltd (STS) : STS was started for the sales and services of spare parts. It was agreed in terms that STS will be given a royalty of one rupee for all hand sealing machines and five rupees for all foot operated sealing machines. This will be offered as a lump sum amount to STS every six months, by taking the total billing of spare parts into consideration. CPP's eldest son Mr. Biju Philipose, an engineer by profession (REC, Warangal) and who had a flair for marketing took charge of STS. Additionally STS carried out the machine quality control and auditing.

N.B: There was a 25% central excise duty on all spare parts being sold and which were used for services. With a separate entity to run the show, fair deal concession was made available from the government.

Sevana Medineeds Pvt Ltd (SMN): This organisation is headed by Ms Binu Philipose, eldest daughter of CPP. This organisation made its route for a medical help to the society. CPP's cousin, Shri Rajan Paul (who was more than a brother to him) was paralysed and he had no control on the passage of urine. CPP worked on a project with Mr. P.C.Cyriac, Chairman of Rubber board. Mr. Cyriac was a good friend of CPP. CPP's interventions with Rubber board produced "Erectable Condoms" for paralysed persons. This transformed the company with lot many more need based product interventions, contributing to the medical fraternity. The company supplies all major surgical and medical utilities to hospitals at a fair price.

Polyguards Equipments & Tools Pvt Ltd (PET) : This organisation came into existence as a result of relevance of necessary domestic utilities. Mr. Baby owned the organisation. Commonly used home utensils like knife, toilet brush etc. ruled the show in the specified market segment.

Low Heat Driers Pvt Ltd (LHD) – was another organisational intervention, referred as "*Pukappura*". This company produced rubber sheet warming up cabinets. CPP's contacts with rubber board helped considerably in reducing the usage of raw materials. This organisation was looked after by Shri K.A.Kuriakose, CPP's brother in law.

Sevana Packaging Systems Pvt Ltd (SEPACK) : CPP had no opinion on the start of this organisation. This organisation came into existence to technically support bulk packing of cashew nuts, tea sacks and other huge quantum materials to be packed. This was an idea floated and shaped by Mr. Biju Philipose. The company manufactures imports and markets technologically advanced packaging machines. There had been an effective acknowledgement for the machines produced by this company by big institutions and other corporate. The support for after sales services were addressed through highly competent technical experts.

Exhibit 3: SEVANA – Basic facts

Table 1: The basics

Number of Mother Units	13
Number of Vendors	400
Number of Dealers	640
Transfer price at which Mother units operate	10%
Average monthly turnover of Mother units	1.5 Lac INR
Average income of Vendors	15000 INR

Source: Company records, 2011

Exhibit 4 : SEVANA – Product Prices

Table 2: Sevana Product Prices in the market (in May 2011)

Product Name	Price / unit (in rupees)
200HB	1800
300HB	2400
200F	5300
300F	5800

500F	6400
600F	7200
900F	8600
Foil Sealers	3200
1515RT(shrink wrapping)	15000
2020RT(shrink wrapping)	21000
2035STV(shrink wrapping)	28000
4025STV(shrink wrapping)	39000
5035STV(shrink wrapping)	63000
Vacuum	90000
250MAP	32000
Liquid Fill sealers	22000
Bulk Packing	4,00,000
Band Sealers	1,50,000

Source: Company records, 2011

Exhibit 5: SEVANA – Annual Turnover

Table 3: Annual Turnover

Annual Turnover (in crores*)			
SEAL	3	PET	2
STS	17	LHD	1
SMN	2	SEPACK	4.5

Source: company records, 2010-‘11
**One crore is equal to 10 million*

Exhibit 6: SEVANA – Branches

Table 4: Sevana Branches

Branch No.	Place	State / Country
1	Kochi	Kerala
2	Coimbatore	Tamilnadu
3	Chennai	Tamilnadu
4	Bangalore	Karnataka
5	Raipur	Chhattisgarh
6	Mumbai	Maharashtra
7	Delhi	Delhi
8	Kolkata	West Bengal
9	Ahmedabad	Gujarat
10	Hyderabad	Andhra Pradesh
11	Vijayawada	Andhra Pradesh
12	Kanpur	Uttar Pradesh
13	Indore	Madhya Pradesh
14	Colombo	Sri Lanka
15	Nairobi	Kenya

Mother Unit	Average Monthly Turnover (in lacs)	Major Products	Average Monthly order from Sevana (in thousands)	Credit for Sevana (in days)	Credit for Vendors (in days)	Average monthly inco for their Vendors (in thousands)
1	18.4	200DV2,300D,300HB	18	30-40	20	15000
2	7	Transformers,200DV2.200HB,250 Delta	6	30-45	15	3000
3	4.5	200HB,250D	4	30-45	30	3000
4	5.4	200HB,250D	5	45-50	20	3500
5	1.7	500HB	1.7	30-45	20	5000
6	5.5	200HB,300HB,300HW,190HW	5	45-50	30	4000
7	6	300D,400HB,400D	5.5	45-50	0	4000
8	2.25	900MSE,BED SEALERS,300HH	2	45-60	0	Data not availab le
9	3.83	300F,300FE,400FE,500FE, 600F, 600FE, 900F, 900FE, 300FD,300FED,400FD,400FED, 300FHED, 400FHED, FS1045,FS1545,FS2045, FSD1045,FSD1545	3.8	45-60	0	5000
10	1.7	200F,200FE,200FH,300F,300FE, 400FE, 300FD, 300FED, 400FD, 400FED, 300FHED, 400FHED, FS1045, FS1545,FS2045, FSD1045,FSD1545	1.5	45	10	3000
11	8.5	CSI,CS35,CSISS.CSI15HV,CSI30HV	8	45-50	30	5000
12	7	Csi, CS3H	6	45	30	5000
13	3	200DV2,200HH	4.5	30	15	3000

Source: Company records, 2011

Exhibit 7: SEVANA – Turnover versus Income

Table 5: Average Monthly Turnover versus Income (2006 – 2011)

Source: Company records, 2011

Exhibit 8: Mother units – Volume of business & Costs

Table 6 : Volume of business & Costs of Mother units

Mother units >>>	1	2	3	4	5	6	7	8	9	10	11	12	13
Average Labour cost (in lacs) >>>	2	1	1	0.2	0.2	0.6	0.5	0.5	0.1	0.1	0.4	0.1	0.5
Average Raw material cost (in lacs) >>>	14	6	6	3	1.4	3.9	3.6	1.5	3.6	1.5	3	0.5	2.9
Frequency of receipt of raw materials for Vendors (in days) >>>	30	15	15	30	30	10	15	10	30	30	15	20	30
Average distance in Km of Vendors who supply raw materials to Mother units (in kilometers) >>>	20	25	22	25	20	20	25	20	20	25	15	15	20
Monthly Average number of orders from Sevana (no. of times per month) >>>	5	3	3	4	3	5	4	3	3	2	4	3	4
Percentage of Execution of orders on time >>>	100	100	100	90	100	100	100	90	100	100	100	70	100

Source: Company records, 2011

Exhibit 9: Mother units – Other Production Costs

Table 7 : Other Production Costs of Mother units

Mother Units >>>	1	2	3	4	5	6	7	8	9	10	11	12	13
Average Monthly Rent >>>	0	0	0	0	0	3000	0	0	3000	0	0	0	0
Average Monthly Electricity cost (in rupees) >>>	550	1000	500	750	200	750	650	1000	800	300	1000	600	450
Average other Contingency cost (in rupees) >>>	2500	1000	2000	500	500	4400	500	1000	400	300	100	0	1000

Major Delays faced >>>	NA	NA	Few components	Few components	NA	NA	NA	NA	Few components	NA	NA	NA	NA

Source: Company records, 2011

Exhibit 10: SEVANA – Sales (2006 – 2011)

Table 8 : Sales for the past 5 years

Product Name Sevana	Sevana Unit	Number of Sales in 2006-2007	Number of Sales in 2007-2008	Number of Sales in 2008-2009	Number of Sales in 2009-2010	Number of Sales in 2010-2011
200HB	STS	7500	8000	8000	8500	9000
300HB	STS	3500	3800	4200	4800	5000
200F	STS	25	20	20	18	15
300F	STS	50	60	60	55	55
500F	STS	20	25	25	20	20
600F	STS	30	35	28	30	30
900F	STS	15	12	15	12	10
1515RT	SEAL	18	22	20	33	42
2020RT	SEAL	21	24	34	39	34
2035STV	SEAL	15	16	26	30	30
4025STV	SEAL	11	14	23	23	25
5035STV	SEAL	7	10	10	13	17
Vacuum	SEAL	9	12	12	11	10
Foil Sealers	STS	50	55	70	80	100
Liquid Fill sealers	SEAL	75	56	73	79	80
Bulk Packing	SEPACK	10	15	17	20	25
Band Sealers	SEPACK	4	8	9	7	8

Source: Company records, 2011

Exhibit 11: Mother Unit - Turnover (2006 – 2011)

Table 9 : Mother Unit - Turnover

Mother Unit	2006 – 2007 (in crores)	2007 -2008 (in crores)	2008 -2009 (in crores)	2009 -2010 (in crores)	2010-2011 (in crores)
1	1.30	1.40	1.49	1.87	2.16
2	0.58	0.73	0.78	0.79	0.86
3	0.28	0.30	0.55	0.65	0.54
4	0.30	0.33	0.35	0.43	0.63
5	-	0.40	0.60	0.72	0.30
6	0.18	0.22	0.30	0.37	0.50
7	-	-	-	0.21	0.50
8	0.10	0.15	0.17	0.20	0.27
9	-	-	0.27	0.46	0.46
10	-	-	-	-	0.11
11	-	0.025	0.08	0.42	0.72
12	-	-	-	-	0.45
13	-	-	-	-	0.02

Source: Company records, 2011

Exhibit 12: Customers of Sevana

Geographic reach of Sevana has been very comprehensive. Few of its customer giants like Hindustan Aeronautics, Reliance, TATA, Asian Paints, Ranbaxy, Dabur, CIPLA, Colgate, Indian Military, Indian Navy has been very expressive with their revelations regarding Sevana identity. Further, scientific market assessment by Sevana Research centre (SERC) has been highly instrumental in complementing the need reality through constant Product innovations.

Exhibit 13: SEVANA – Sample Products

Exhibit 14 - How does Sevana products help the society?

-Sealing machine (Hand operated and foot operated) helps in sealing plastic polythene bags comprising solid, liquid, air, Semi solid state of products

-Shrink wrapping machines helps in wrapping vessels and bottles with plastic polythene films, which exercises scientific packing and helps from pilferages and leakages.

-There are machines which help products to get tightly packed, by sucking out air and pumping inert gases like nitrogen oxide and carbon dioxide. This treatment helps the materials inside the packet to have more shelf life. These are normally undertaken by Vacuum packaging machines. Major packed by these machines are Cashew products, sweets, Dry fruits, other eatables.

-Brittle materials like wafers and thin solid materials are allowed to float inside the packet by maintaining the advised atmospheric pressure. Transportation of such materials from one place to another place becomes easier. The damages to materials inside the packets are drastically minimized. One of the machine - 250 MAP machine manufactured by Sevana is used by the branded product “Uncle chips”.

-Sevana machines are used to fill and seal liquids materials like water, oil etc., in a conventional manner. These machines help the user to fix the quantity to generate the flow of liquid into the packet, and seal it.

-For SSI units and MSI units, sealing machines used are foot operated. These types of machines are used, in order to improve the speed of packing. Large number of packets are required by these companies in the market.

-Bulk packing machines (microprocessor controlled) are used to pack huge quantity of materials like tea leaves, coffee leaves, groceries, cashew, dry fruits etc.

-Medical and surgical products are produced by Sevana. The products have been into the category of pregnancy beds, erectable condoms, surgical gloves, surgical masks, catheter etc.

-Conventionally used home utensils materials like Knife, cleaning brush, brooms, etc. are also produced.

-Sevana produces products used for Interior decorations.

References

In 1952 1 USD = 5 INR, http://en.wikipedia.org/wiki/History_of_the_rupee - 17-jun-‘12
ana was a currency unit formerly used in India, equal to 1/16th of rupee, http://en.wikipedia.org/wiki/Indian_anna - 17-jun-‘12

REC is renamed as National Institute of Technology (NIT) – through a parliamentary legislation in 2002 and now under the direct purview of India's federal government., http://en.wikipedia.org/wiki/Regional_Engineering_College - 17-jun-‘12

FACT – Fertilizers And Chemicals Travancore, one of the Kerala biggest Public Sector Company, was doing bad during the time period as mentioned in the case

TELK-Transfromers and Electricals Kerala Limited is a Government of Kerala(GOK) company which was incorporated in 1963 (http://www.telk.com/telk_about_us.htm - 17-jun-‘12)

Kerala Financial Corporation (KFC) incorporated under the State Financial Corporations Act of 1951, under GOK(http://kfc.org/profile.php - 17-jun-‘12)

Palakkad is a central district of Kerala state.

Gherao (meaning besiege) a form of industrial action in India in which workers imprison their employers on the premises until their demands are met. (http://dictionary.reference.com/browse/gherao - 17-jun-‘12)

SSI - Small Scale Industries means An industrial undertaking in which the investment in fixed assets in plant and machinery whether held on ownership terms on lease or on hire purchase does not exceed Rs 10 million and is under the Ministry of Micro, Small And Medium Enterprises, Govt. of India) units

http://www.sevana.com/index.php/en/component/content/article/2-uncategorised/13-quality - 7-jun-‘12

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