CHAPTER 7

FINDINGS AND CONCLUSIONS
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From this in-depth study of ancillarisation, a number of problems is identified both at macro level and micro level. This chapter aims to give several findings emerging, after probing into several issues on ancillarisation at macro level and micro level. The ten buyer action attributes and supplier action attributes identified for promoting ancillarisation are summarised. It is found that the parent firm and their ancillary units are not giving equal importance to all the attributes needed for promoting ancillarisation. It is also found that supplier action attributes of the ancillary unit depend on buyer action attributes of its parent unit.

Based on the extent to which supplier action attributes are practiced by the ancillary units, three models are developed. They are Primitive model, Protective model, and Progressive model. This study also found the phases in the development of ancillary units.
7.1. Macro level issues:

1. **Types of ancillarisation**: Depending upon the stages at which ancillarisation is undertaken, ancillarisation can be classified as **Component**, **Activity**, **Assembly** and **Product**. The ancillary units undertaking Component is greater followed by Product, Activity and then Assembly?

2. **Parent ancillary relationship**: Parent ancillary relationship is of crucial importance for the success of ancillarisation. It is found from the study that both parent and ancillary should take appropriate actions for promoting ancillarisation. These actions are termed as buyer action attributes and supplier action attributes and these factors promote ancillarisation and the extent to which buyer action attributes and supplier action attributes practiced by parent-firm and the ancillary units can be measured.

3. **Buyer action attributes**: Buyer action attributes are structured and significant actions to be taken by the parent unit for promoting ancillarisation. Out of the several attributes identified only 10 attributes which are vital for promoting ancillarisation are **Economic Related attribute (Price revision practices)**, **Supplier Evaluation attribute (Supplier Evaluation)**, **Supplier audit attribute**
(Supplier Plant audit), Convenience Related attribute (Frequency of schedule given), Finance related attribute (Payment pattern), Reliability Related attribute (Meeting credit period), Assistance Related attribute (Assistance provided to suppliers), Training related attribute (Supplier Training), Stability related attribute (Variation in Quantum of orders), Dependability related attribute (Component supplier ratio).

4. **Supplier action attributes:** These are the actions to be taken by the ancillary unit for promoting ancillarisation. Out of the several attributes identified only 10 attributes which are vital for promoting ancillarisation are Technology related attribute (Extent of Technology), Reliability related attribute (Rejection rate), Commitment related attribute (Meeting delivery schedule), Service related attribute (Communication mode), Capability related attribute (Period of investment in plant & Machinery), Human Resource related attribute (Incentives to labours), Dependability related attribute (Lead-time required for the supply), Quality related attribute (Type of Quality Assurance Programme), Value related attribute (Frequency of Productivity Improvement Programmes), Caliber-related attribute (Type of maintenance).

5. **Ancillarisation in Japan and Korea:** The Japanese system is often cited as a model for the dynamic benefits of ancillarisation in stimulating technological diffusion, growth of small enterprises. The success of ancillarisation in
developing symbiotic co-existence between large and small-scale industries in Japan has become a lesson for others. Korea has successfully emulated the Japanese practice to promote ancillarisation.

6. Ancillarisation in developing countries: Inspired by the Japanese and Korean successes, ancillarisation has been recommended, for developing countries as a mechanism for widespread industrialisation and employment generation. Programs for the development of ancillaries in Indonesia, Malaysia, Singapore, Taiwan and Thailand have been moving from protection towards promotion. The extent of these programs has varied across countries. In developing countries the ancillarisation continues to be at a disorganised and underdeveloped stage.

7. Ancillarisation in India: In India, in the fifties large enterprises believed in manufacturing as many components in-house as possible. The fact that ancillarisation has increased since the mid-sixties suggests that the growth of this relationship could have been in response to the recession of the mid-sixties and the slower growth of manufacturing output in the subsequent period. The synergetic impact of competition, innovation, liberalisation of trade compelled the large firms to concentrate on core-activities and shift the manufacturing/production of parts and components to ancillary units. Maruti Udyog, Eicher Good earth Ltd., Escorts Ltd., Motor Industries Corporation
and few other industries in private sector have successfully implemented the process of ancillarisation.

8. **Role of Government agencies in India:** Though the Government of India provides exclusive ancillaries with some additional concessions, it appears that neither the parent units nor small-scale units prefer this 'exclusive status'. The study shows that in Indian context, the ancillarisation is prevalent in engineering and allied industries. The role of government policies, especially in India, could have played a crucial role in promoting ancillarisation. At Central level, under Ministry of Industry an exclusive Department of Small and Agro based and rural industries exists since 1991 for the promotion and development of small-scale industries. The office of Development Commissioner (Small Scale Industries) has been functioning within the Ministry of Industry since 1954 as an apex/nodal organ and provides link between the Ministry/Department and field organisations. Since 1991 it has been working as an attached office to the Department of Small Scale and Agro based and rural industries. The Small Industries Development Organisation (SIDO) headed by the Additional Secretary and Development Commissioner (SSI), being an apex body for formulating policies for the development of small-scale industries in the country. The SIDO has an Ancillary Industries Division at the center. With the help of Small Industries Service Institutes
(SISIs) located in each state, Sub-contracting exchanges have been set up for undertaking promotional activities in the field of ancillary development. District Industries Center, is a district level institution set up by the Government, which provides services and facilities to entrepreneurs at one place, to set up and to develop small and tiny units. In Karnataka state, many large / medium scale Public sector and Private sector undertakings have promoted the development of ancillary units but there is no structured approach in promoting ancillarisation also there is no monitoring system for obtaining data on the efforts of ancillarisation made by the private sector industries.

9. **Sub-Contract Exchanges**: These have been set up at several places with assistance from central Government. These Sub-Contract Exchanges serve as a data bank to register the requirements of parts, components, tooling, etc. needed by large and medium industries on the one hand and the matching of spare capacities of these available with SSI units for promoting linkages between large and small enterprises. The study shows sub-contract exchanges are not effective in promoting ancillarisation.
7.2 Study Area:

It is found from the study that, in North Karnataka area, Belgaum Division offers wide scope for ancillarisation. Belgaum division finds a third place in respect of development of small-scale industries in terms of registered small-scale units in the state. Belgaum division has a strong entrepreneurial base, most of the entrepreneurs being technocrats and it is strategically located due to its proximity to industrially developed areas such as Bombay, Pune, Bangalore, Kollahpur and Goa and thus in North Karnataka, Belgaum division offers wide scope for ancillarisation.

Belgaum is the Divisional Headquarters for the Revenue Division consisting the districts of Belgaum, Dharwad, Haveri, Gadag, Uttar Kannada, Bijapur and Bagalkot districts. Haveri and Gadag districts are industrially underdeveloped and offer no scope for ancillarisation. Therefore, the study area consists of Belgaum, Dharwad, Uttarkannada, Bijapur & Bagalkot districts. Belgaum division, which happens to be the study area possesses, reasonably all the facilities required by the industries to grow and develop.

In Belgaum division the percentage of ancillary units is the biggest 65.22% in Belgaum district, 30.43% in Dharwad district, 3.48% in Uttar Kannada district and Bijapur and Bagalkot has the least, 0.87% of the total ancillary units. Thus
Belgaum district offers more scope for ancillarisation followed by Dharwad, Uttar Kannada and Bijapur and Bagalkot districts respectively.

7.3 Micro level issues:

1. **District industries center**: It is a district level institution set up by the Government for the development of Small-Scale industries has not played vital role in promoting ancillarisation.

2. **North Karnataka Sub-Contract Exchange**: It has been set up with 100% financial assistance by the Government with a primary objective of promoting ancillarisation in North Karnataka industrial area. Only 16% of the ancillary units both from private sector and public sector have registered with Sub-contract exchange and the registered units are predominantly are from Gokul Industrial area.

The study shows that the awareness of North Karnataka sub-contract Exchange among the ancillary units in North Karnataka Industrial Area is less and North Karnataka Sub-contract exchange has not played vital role in promoting ancillarisation.
3. **Buyer action attributes**: These are the actions to be taken by the parent unit for promoting ancillarisation. Ten buyer action attributes, which are vital for promoting ancillarisation, are identified in this study. The extent to which buyer action attributes are practiced by the parent firm is given in this section.

I. **Economic Related attribute (Price Revision Practices)** - 32% of the parent units revise price within one year. Around 68% of the buyers require more than one year and in many cases prices are not revised even after 3 years.

II. **Supplier Evaluation attribute (Supplier evaluation)** – Parent units having vendor/ancillary development department evaluate the performance of the ancillaries on a continuous basis. 45% of the parent units evaluate their ancillaries on continuous basis. Continuous evaluation of ancillaries helps in developing parent ancillary relationship and promotes ancillarisation. Further it is also found that there is a positive relationship between supplier evaluation and CGR in the value of sales made by the ancillary unit.

III. **Supplier audit attribute (Supplier Plant Audit)** - Supplier Plant audit is necessary to find out, whether ancillary units have appropriate
infrastructural facilities. Only 28% of the parent units conduct supplier plant audit on a continuous basis.

IV. **Convenience related attribute (Frequency of Supply Schedule)** - 65% of the parent units give schedule of orders within one month. This helps the ancillary for their monthly production scheduling.

V. **Finance related attribute (Payment Pattern).** - Only 26% of the parent unit’s pay within one month of the supplies made by the ancillaries. 74% of the units pay after 30 days. This factor is valued very high by the ancillary units and payment within 30 days of supply helps in developing better relationship between the parent and the ancillary and promotes ancillarisation.

VI. **Reliability related attribute (Meeting Credit Period).** - Only 46% of the parent units meet the agreed credit period. Remaining pay according to their convenience. It is found that most of the parent units do not have the pricing policy. This is also vital factor for promoting buyer- supplier relationship.

VII. **Assistance related attribute (Assistance provided to suppliers) - 70%** of the buyers do not provide assistance. Very few units provide some sort of technical guidance but very little financial assistance.
VIII. **Training related attribute (Supplier Training)** - Only 4% of the parent units provide supplier training. This shows that parent firms are not taking interest in training their suppliers.

IX. **Stability related attribute (Variation in Quantum of Orders)** - Lesser is the variation in Quantum of orders stable is the relationship. Only 30% of the parent units give stable production schedule. The study shows fluctuations in the quantum of orders.

X. **Dependability related attribute (Component Supplier Ratio)** – 18% of the units have one supplier for one component. This shows that there is more inclination towards multiple sourcing.

Buyers give more importance to only some attributes and practice them. The importance of the attributes in the order, they have been practiced by the parent firm are ranked below.

I. **Convenience related attribute (Frequency of Schedule given)**

II. **Stability related attribute (Variation in Quantum of orders)**

III. **Supplier Evaluation attribute (Supplier Evaluation)**

IV. **Dependability related attribute (Component supplier ratio)**
V. Supplier audit attribute (Supplier Plant audit)
VI. Assistance related attribute (Assistance provided to suppliers)
VII. Economic related attribute (Price revision practices)
VIII. Reliability related attribute (Meeting credit period)
IX. Finance related attribute (Payment pattern)
X. Training related attribute (Supplier training)

It is found that Convenience related attribute is practiced most and training related attribute is practiced least.

4. Supplier action attributes: These are the necessary actions to be taken by the ancillary units for developing good relationship with their parent units for promoting ancillarisation. Ten supplier action attributes, which are vital for promoting ancillarisation, are identified in this study. The extent to which supplier action attributes are practiced by the ancillary unit is given in this section.

1. Technology related attribute (Extent of Technology): Only 10% of the units have CNC machines. Remaining 90% of the units have machines, which are more than ten years old.
II. **Reliability related attribute (Rejection rate):** 48% of the units have rejection rate in the range of 0-2%. 32% of the unit's fall in the range of 2 to 5% and 20% of the units have higher rejection rate of 5% and above.

III. **Commitment related attribute (Meeting Delivery Schedule):** 48% of the units meet delivery schedule the remaining units do not show the required commitment.

IV. **Service related attribute (Communication mode):** 20% of the units have Internet facilities, having access to global information system. Other units have fax and telephone facilities.

V. **Capability related attribute (Period of investment in Plant and machinery):** 20% of the units invest for upgrading their infrastructure on a continuous basis.

VI. **Human resource related attribute (Incentives to labours):** 20% of the units pay allowances apart from wages to their labours. 40% of the units only pay wages as per law. The remaining 40% of the units are unable to pay wages regularly. Therefore cannot maintain stable work force.

VII. **Dependability related attribute (Lead-time required for the supply):** Reduction in lead-time is vital factor for the parent unit. 22% of the units
require minimum 7 days of lead-time. Remaining units require more than 7 days. Lesser lead-time indicates streamlined production.

VIII. **Quality related attribute (Quality Assurance Programme):** Only 13% of the units have ISO 9000 certification, thus assuring quality. 70% of the units have no system for quality control/assurance. Remaining units follow Statistical Quality Control.

IX. **Value related attribute (Frequency of Productivity Improvement Programmes):** 30% of the ancillary units have continuous cost reduction programmes, which results in value addition. Remaining units are not serious about value addition.

X. **Caliber related attribute (Type of Maintenance):** 32% of the units have preventive maintenance system ensuring smooth and uninterrupted production. 34% follow predictive maintenance system and the remaining have breakdown maintenance system.

Suppliers give more importance to only some attributes and practice them. The importance of the attributes in the order, they have been practiced by the ancillary are ranked below.
I. Commitment related attribute (Meeting delivery Schedule)

II. Reliability related attribute (Rejection rate)

III. Caliber related attribute (Type of maintenance)

IV. Value related attribute (Frequency of cost reduction programmes)

V. Dependability related attribute (Lead-time required for the supply)

VI. Quality related attribute (Type of Quality assurance programme)

VII. Human Resource related attribute (incentives to labours)

VIII. Capability related attribute (Period of investment in plant and Machinery)

IX. Service related attribute (Communication mode)

X. Technology related attribute.

It is found that Commitment related attribute is practiced most and Technology related attribute is practiced least.

5. Parent ancillary association / Inter-firm linkage / ancillarisation: Growth and Prospects of ancillaries depends upon many factors. For the sustainable development of ancillarisation and to promote parent-ancillary relationship the parent-unit (buyer) has to invest and take appropriate actions for the development of ancillary units (supplier). These actions are termed as buyer action attributes. It is found from the study that the buyer action attributes of the parent unit will lead to supplier action attributes of the ancillary. It is found from the data analysis that there is a higher
degree of association (70%) between buyer action attributes of the parent unit and supplier action attributes of the ancillary. The study also shows that the ancillary unit (supplier) taking appropriate action will get more business from the parent unit (buyer) and it will lead to growth in the value of sales of the ancillary unit. Thus the supplier action attributes will lead to increase in the value of sales and increase in growth rate of the ancillary unit. It is found from the data analysis that there is a 50% degree of association between compounded growth rate in the value of sales and supplier action attributes of the ancillary unit.

It is found from the study that Supplier action attributes depends on Buyer action attributes, resulting in diffusion of technical skills and managerial practices. And Compounded growth rate in the value of sales made by the ancillary units depends on Supplier action attributes.

It is found from the case study of Superb industries (ancillary unit) and its parent firm (Sundaram Clayton Ltd.) that, how inter-firm linkages can help ancillaries to develop distinct competencies. This study also demonstrates that, how the buyer action attributes of the parent unit will lead to supplier action attributes of the ancillary unit and how the combined actions promote ancillarisation.
It is observed that the ancillary units, who do not want to continue business relationship with parent units, have more than one reason. Main reason is delay in payment followed by low volume of business, Irregular orders, poor price revision practices and improper communication. It is also observed that, Continued orders followed by Increase in the share of business, Commitment and Increased assistance are the motivation factors for the ancillary units to continue relationship with their parent units. Majority of the ancillary units has medium degree of relationship with the parent units, followed by low degree and very few units have a high degree of relationship with their parent units.

7.4. Models of ancillary units:

Based on the extent of Supplier action attributes practiced by the ancillary units three models of ancillary units are developed. These three models are Primitive model, Protective model and Progressive model.

1. **Primitive Model:** The ancillary units belonging to this model demonstrate that the supplier action attributes are insignificantly present (in the range of 10-15). In this case stability and security for the ancillary units due to irregular work orders from the parent units, with the aim of smoothing production. Here the parent units
successfully pass on the burden of market fluctuations to the ancillary units by delaying payment of bills, refusing to take delivery of goods and postponing inspection of materials.

The ancillary units can easily lose his investment as a result, neither the parent firm nor the ancillary unit shows a long-term commitment to invest in plant and machinery or the labor force. The jobs in these firms will be extremely insecure and create bad working conditions.

2. Protective Model. The ancillary units belonging to this model demonstrate that the supplier action attributes are moderately present (in the range of 16-25). If the ancillary unit is motivated by the desire to cut wage costs, the terms for transactions between the Buyer and supplier are far less beneficial to the ancillary unit. In this case, the ancillary unit can only survive if it achieves leadership on a cost basis. Given that the production process is standardised and the necessary technology is available to a great number of competitors, the price competition is usually fierce, forcing ancillary units to cut costs continuously. Except for some cases, where firms achieve extraordinary increases in productivity, ancillary units are obliged to reduce profits, wages and labour standards.
The parent firm relies on a large number of ancillary units, who can be played off against each other to gain price concessions and ensure continuity of supply. The parent firm allocates share of supplies to keep them in line. The parent firm assumes an arm length posture. This arrangement does little to engender long-term co-ordination or co-operation between ancillary and their parent firms.

3. **Progressive Model:** The ancillary units belonging to this model demonstrate that the supplier action attributes are significantly present in them (greater than 25 points). These are the most privileged ancillary units, who achieve technological leadership in a certain field and therefore have a certain bargaining power and also may negotiate higher price for their products. In addition, the specialized ancillary units supported by in-house Research and development gain access to a reliable market, assuming the parent firm remains viable. Intra industry linkages based on mutual specialization go beyond arms length transactions, including the Co-ordination of delivery times, product standardization, joint research, and so on. The arrangement guarantees a long-term commitment by the parent firm.

From the case studies of selected ancillary units it is found that, Micron Engineers, Hydromatic Belgaum Private Limited, Vaishali Engineering works, Naik Engineering
exhibit the characteristic features of Primitive model. Ohm Electricals, Akshay
Engineering, Alcon components, Techno systems exhibit the characteristic features of
Protective model. Oil Gear Towler private Limited, J P Foundries, Geared Hydropower
Private Limited, Reliance Engineering Corporation exhibit the characteristic features of
Progressive model.

7.5. Rating system for ancillaries and Action Research

Action research was carried out at sub-contract exchange on a selected sample of
12 ancillary units. It was carried out in three phases. Based on the extent, to which
supplier action attributes are practiced by the ancillary units, the rating system
was developed for the ancillary units. And the ancillary units were rated as A, B
and C. The ancillary units rated as A indicate that, the supplier action attributes
are significantly present, the ancillary units rated as B indicate that, the supplier
action attributes are moderately present. And the ancillary units rated as C
indicate that, the supplier action attributes are insignificantly present.

The web site was developed and installed at North Karnataka SCE in Hubli. With
the consent of ancillary units the rating was put on the web site. This rating
system has helped the ancillary units in many ways.
a. It has helped the ancillary units to benchmark with the other ancillary units and able to understand their current status and to improve their rating.

b. It has also helped the parent units/buyers for knowing the status of ancillary units and getting assurance from the third party. As the entire rating system was put on the web site, the ancillary units started getting enquiries from buyers from Pune, Bombay and Bangalore.

c. This action research helped the researcher to prepare some basis for further research.
Phases in the development of ancillary units.

This study also found the phases in the development of ancillary units, which is given in Fig 7.1.

**Figure. 7.1. Phases in the development of ancillary units**

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<tr>
<th>Criteria</th>
<th>Primitive Model</th>
<th>Protective Model</th>
<th>Progressive Model</th>
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<tbody>
<tr>
<td>Reliable parent unit/Customer base</td>
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</tr>
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<td>In-house R &amp; D</td>
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<tr>
<td>Customer Evaluation</td>
<td>No</td>
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<tr>
<th></th>
<th>Primitive Model</th>
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<th>Progressive Model</th>
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<tr>
<td>Volume of Supplies</td>
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<td>Low/Medium</td>
<td>High</td>
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<tr>
<td>Technology</td>
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<td>Narrow/Broad</td>
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<tr>
<td>Buyer-Supplier Relation</td>
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Source: Field Survey
Photo 7.1. The Researcher in discussion on findings, with Mr. C G Lakkundi,
Chairman, North Karnataka Sub-Contract Exchange.