

## Extract Strategies Using Little Model for a Part of Textile Industry Case Study: Shirt Fabric and Silk Handkerchief in Yazd Manufacturers

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### ABSTRACT

The life-cycle concept has long been recognized as a valuable tool for analyzing the dynamic evolution of products in the market place. A global process equipment manufacturer wanted to identify the most promising growth opportunities in current and emerging clean technology applications. They engaged Little approach to develop a worldwide clean technology growth strategy, including investment planning for their most promising opportunities. In this research the Little model is used to extract strategies of shirt fabric and silk handkerchief manufacturers in Yazd city. To cover this goal firstly the position of these manufacturers in life cycle is determined and then the strategies are extracted based on existing data. Then to determine the competitive position of each product, the data of 52 manufacturers in Yazd is gathered. Finally based on the situation of each product, the strategic thrusts, specific thrust and generic strategy are determined for it.

**Keywords:** Little model, Strategic thrusts, Specific thrust, Generic strategy, shirt fabric, silk handkerchief.

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### 1. INTRODUCTION

Leading companies now recognize that strategic planning can help them not only avoid costly problems or liabilities, but also identify environmentally based opportunities for competitive advantage. These opportunities take two forms: cost reduction and differentiation of products, processes, or services.

Many firms started long-range planning in the 1920s, limiting their focus initially to the manufacturing and financial functions. Over the ensuing decades, long-range perspectives were employed in the product development, marketing, and human resource areas, and by the early 1970s most US firms had institutionalized some form of overall long-range planning. Peter Drucker, an often-quoted voice of sanity in the marketplace of management thinking, was an early advocate of planning, starting when he was a consultant to GE chairman Ralph Cordiner [1].

Unfortunately, long-range planners often generated expensive and voluminous reports that lost relevance as they gathered dust. Done right, however, long-range planning compels managers to contemplate the allocation of resources beyond the current quarter or year; it considers the external factors that may affect the evolution of the firm and integrates the various functional strategies.

Strategic thinking and practice took a leap forward with the development of new, sharper analytic tools that helped managers make better sense of their markets, competitors, and industries. Several techniques make the honor roll:

- **Market analysis.** Like what GM's market section has been done in early 1920. They analyzed how to allocate limited resources to different kinds of customers. At one point Ford Model Ts has 50 percent of car sales market share through the world but GM toppled Ford by producing various kinds of autos for each category of customers by 1930.

- **The lifecycle.** The first important paper for lifecycle of product published by Theodore Levitt in 1965 and at the same time the consulting firm of Arthur D. Little (ADL) described the lifecycle for an industry [2]. Based on ADL all industries progress by some stages called: embryonic, growth, mature, and aging. At each stage some basic strategies is needed for moving ahead of the industry.

- **SWOT analysis.** This approach first introduced in the 1960s [3] and based on that all industries should extract internal factors as strengths and weaknesses and external factors as opportunities and threats.

- **Structure of industry.** Characteristics of industries could give rise to important differences in industry profitability. In all strategy programs five aspects of analysis called supplier, buyer, entry/exit barriers, substitutes for the customer, and competitor rivalry has been canonized [4]. Managers can make better decisions in industry with better structure.

Strategic planning is a powerful management technique that helps organizations to take advantage from their strengths and opportunities to forecast future environmental changes and compatible with it [5]. Among most useful tools for strategic planning is SWOT analysis. The main goal of strategic planning is extracting of internal factors as strengths and weaknesses and external factors as opportunities and threats.

One of the recent approaches for strategy selecting is Purtaghavi analysis. The base of this analysis is matrix development. Mentioned matrix in this research is Little matrix that determined the situation of each company based on life cycle stage. Although now slightly dated at first glance, The Arthur D Little (ADL) Strategic Condition Matrix offers a different perspective on strategy formulation. ADL has two main dimensions: competitive position and industry maturity [5].

Competitive position is driven by the sectors or segments in which a Strategic Business Unit (SBU) operates. The product or service which it markets, and the accesses it has to a range of geographically dispersed markets that are what makes up an organization's competitive position i.e. product and place.

Industry maturity is very similar to the Product Life Cycle (PLC) and could almost be renamed an industry life cycle. Of course not only industries could be considered here but also segments. Industry lifecycle has four stages called Embryonic Growth Mature and Aging.

1. Embryonic – this stage sometimes called introduction stage and needs high investment and new technology and characterized by rapid market growth. At this stage the level of competition is not high.
2. Growth – at this stage the market position go ahead to be stronger and stronger, total sales increase, few (if any) competitors exist, and company reaps rewards to develop some new products for market.
3. Mature – The steady state for market position and market share, there's a well-established customer base, various competitors, and energy is put toward differentiating from competitors.
4. Aging – Demand decreases, companies start abandoning the market, the fight for market share among remaining competitors gets too expensive, and companies begin leaving or consolidating until the market's demise.

Now the strategic position of an industry can be determined. One of the main decisions of managers is determining strategies of the industry. There are six general categories of strategies of a firm called: market, production, management and systems, technology, retrenchment and operation strategies.

ADL matrix is a management method in accordance to lifecycle of an industry. This tool uses the dimensions of environmental assessment and business strength assessment. The environmental measure leads determination of the industry's life cycle. The business strengths measure is a categorization of the corporation's SBU's into one of five (6) competitive positions: dominant, strong, favorable, tenable, weak (and non-viable). This leads a 5 (competitive positions) by 4 (life cycle stages) matrix. Positioning in the matrix identifies a general strategy [7].

The assessment of the industry lifecycle stage of each business is made in accordance to the share of business market, the value of investment and profitability and cash flow

The competitive position of an industry or business is made in accordance to dominant, strong, favourable, tenable and weak.

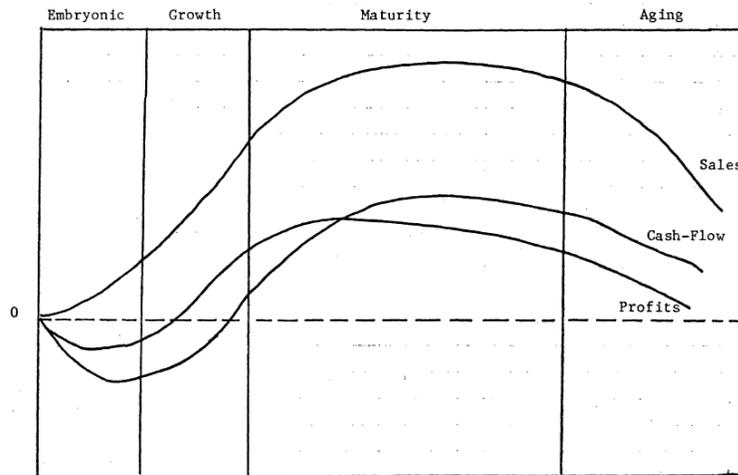
ADL matrix has several limitations. The main limitations are:

- The life cycle has no standard length,
- Determining the current position of an industry in its life cycle is awkward,
- The length of lifecycle may be influenced by competitors.

The life-cycle concept has long been recognized as a valuable tool for analyzing the dynamic evolution of products in the market place. It is derived from the fact that a product's sales volume follows a typical pattern that can readily be charted as a four-phase cycle known as embryonic, growth, maturity, and aging.

The managerial implications of the product life-cycle have been widely documented. See, for example, Clifford [8], Urban and Hauser [1], Kotler [9]. Moreover, the linkage between the product life-cycle and strategic management has been a subject of increasing attention [10, 11]. Also much attention has been given to the relationship between the product life-cycle and management of innovation and product technology [12, 13, 14, 15].

Although normally the stages within the product life-cycle are characterized by their corresponding sales growth, it is important to understand how often financial characteristics impact each stage, such as profit and cash-flow [16]. As shown in Figure 1, profits are negative throughout all or most of the embryonic phase, but tend to increase sharply during the growth phase, prior to leveling off and subsequent steady decline at the maturity phase, when normally competitive pressure begins to erode profit margins.



**Figure 1.** Yearly Sales, Cash-flow, and Profits Through the Life-cycle Stages

At the very end of the aging phase, profits could even turn negative, if there is not a timely disinvestment of the business or product [17].

What is even more impacting is the behavior of cash flows, which take large negative values during the embryonic and growth stages, representing an investment into the future, to be compensated during the maturity and aging phases, when positive cash flows become significant [18].

Despite this controversy, it is understandable that very many industries, in particular high-technology ones with a rapid pace of innovation, center a great deal of attention in the challenges of managing products with short life time. The implications of the product life-cycle become central for the implementation and development of strategies in those industries. Accordingly, Arthur D. Little Inc. (ADL) has proposed a fairly structural methodology to guide strategic choices based on the life-cycle concept [19, 20, 21, 22, 23]. This approach is supported by another type of portfolio matrix, whose primary dimensions are the life-cycle stages and the competitive position.

The rest of this paper is organized as follows: section 3 is devoted to determining the strategic thrusts, specific thrust and generic strategy for sofa cloth and carpet and section 4 conclude the research.

## 2. Strategy development of two main products

Two main products in Yazd's textile industry are shirt fabric and silk handkerchief. The main markets of these products are Tabriz, Mashhad, Yazd and Shiraz. At first one questionnaire with 6 questions is prepared. 28 shirt fabric manufacturers and 24 silk handkerchief manufacturers are selected to fill prepared questionnaire. Tables 1 and 2 portrait the position of these two products in life cycle.

Table 1. Position of shirt fabric in life cycle

Indexes	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Sum
<b>Life cycle stages</b>	Potential of industry	Market share	Easily to entrance	technology	Approach of raw material purchase	Product variety	
<b>Embryonic</b>	2	7	3	22	2	5	41
<b>Growth</b>	3	5	11	3	3	5	30
<b>Maturity</b>	15	1	13	3	9	2	43
<b>Ageing</b>	8	15	1	1	14	16	55

Table 2. Position of silk handkerchief in life cycle

Indexes	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Sum
<b>Life cycle stages</b>	Potential of industry	Market share	Easily to entrance	technology	Approach of raw material purchase	Product variety	
<b>Embryonic</b>	6	4	6	4	0	5	25
<b>Growth</b>	12	4	9	3	6	10	44
<b>Maturity</b>	6	13	9	14	15	7	64
<b>Ageing</b>	0	3	0	3	3	3	12

After life cycle the competitive position of each product must be determined. By one question this position is determined and can be seen in table 3.

Table 3. Competitive position of shirt fabric and silk handkerchief

Firms	shirt fabric	silk handkerchief
<b>Dominant</b>	0	0
<b>Strong</b>	0	2
<b>Favorable</b>	11	13
<b>Tenable</b>	13	7
<b>Weak</b>	4	2

At this stage the position of each manufacture must be determined in Littel matrix. Table 4 portrays the basic rule to determine the position.

Table 4. ADL matrix

	Life cycle stages			
Competitive situation of the firm	Embryonic	Growth	Maturity	Ageing
Dominant	Natural development			Selective development
Strong	Natural development			
Favorable				Prove
Tenable				
Weak				Out

In accordance to shirt fabric industry is in ageing stage with tenable competitive situation selective development can be advised for it. Also because silk handkerchief industry is in maturity stage with Favourable competitive situation out can be advised for it

2.1 Specific thrust and generic strategy for shirt fabric

Selective development is strategic thrust of shirt fabric industry. Specific thrusts of tenable stage are maintain position aggressively, Defend position and Catch up. Furthermore the generic strategies for sofa cloth are Development of an overseas business (B), Development of overseas production facilities (C) Excess capacity (E), Market penetration (L), Methods and functions efficiency (N), New products / same markets (P), Same products / new markets (U) and Technological efficiency (V). More detail strategies are:

1. In the event that process improvements or business shifts free up capacity, use that capacity to make other products on the plant equipment – either for current customers, new customers or as an outsource supplier to other manufacturers.

2. Guarantee customers zero lead time supply of your products (or spare parts) so you never shut them down. OEM customers may find this very attractive.
3. Develop a magazine or training classes for customers and distributors to both educate and enhance relationships.
4. Create a separate forecast and possibly inventory buffer for spare parts based on all history available to increase delivery reliability.
5. Establish promise dates to customers based on a realistic view of resource capacity and availability, ideally using both backward and forward scheduling.
6. Deliver new orders into production nearly instantly so they can assess resource levels and react nearly immediately to minimize late shipments.
7. Communicate early and work with customers when you may miss a ship date.
8. As customers go global, industrial products suppliers must as well.
9. Work with customers to create on-site stocking levels of spares.
10. Create centers of expertise for each product line or market to better leverage experts and minimize duplicate engineering effort in the office and in the field.
11. Leverage technology to provide remote support to customers, and staff it with the same caliber of engineers or technicians who go on-site.
12. Ask suppliers for advance ship notices (ASNs) to see incoming materials status.
13. Standardize raw materials, components, weldments and subassemblies to allow more consistent processing and to streamline procurement.
14. Provide suppliers a good and constantly updated forecast that allows them to see any seasonality or expected demand shifts as early as possible.
15. Create a system for location and storage of materials for quick retrieval; do the same with tooling and fixtures.
16. Ensure you always have materials on hand to build the 20% of the products that make up 80% of revenue at the same time, if the 80-20 rule applies.
17. As you learn how to cut cycle times and increase reliability, work with your suppliers to help them achieve the same gains.
18. Cutting order lead times to half or less of low-cost offshore competitors can greatly boost competitive stance; they have long fixed transit times.
19. Bring in (or buy out) a supplier operation that causes schedule uncertainty or quality problems and turn it into a profit center serving other companies.
20. Consider buying multi-function machines that can act as a work cell and conduct primary and secondary operations with no material handling.
21. Receive materials where you will use them to reduce indirect labor; create line-side material storage rather than using a separate warehouse.
22. Ensure up-to-date master data, drawings and work instructions with discipline and a single repository application for the company or division.
23. Once you fix a problem, go back and eliminate the checkpoints in the process.
24. Try new shift schedules on fewer machines to increase utilization – after you're sure human and machine resources are flexible enough to do so.
25. Create a common metrics system across the company, pull data from various points in the process to feed those metrics, and display results on plant dashboards to focus attention on problem areas and change employee behavior.

## 2.2 Specific thrust and generic strategy for silk handkerchief

Prove viability is strategic thrust of silk handkerchief industry. Specific thrusts of tenable stage are Gain position aggressively, Exploit niche and Turn around. Furthermore the generic strategies for sofa cloth are Distribution rationalization (D), Production rationalization (Q), Production line rationalization (R), Pure survival (S) and Little jewel (K). More detail strategies are:

1. Smaller, More Frequent Orders: The mixed-model operation gets more complex as customers shift order patterns. This can result in more changeovers, lead-time pressure and complexity in the plant and sales operations.

2. Quality is not a Differentiator: Customers expect essentially perfect product quality and aren't usually willing to pay a premium for it.
3. Product Proliferation: Specially engineered products that meet a specific need or provide them a competitive advantage may get a higher price, but also entail higher mix and complexity through every phase of the operation.
4. Price Sensitivity: Even when materials prices go up, many customers expect the prices they pay to stay the same or even drop.
5. Global Competition: Companies from lower-cost countries are competing in both parts and equipment segments.
6. Challenging Capital Market Conditions: Many operations essential to producing industrial parts and equipment (machining, plating, coating, painting or heat treating) entail large capital expenditures, which investors often shun.
7. Environmental Sensitivity: Some of these processes, such as painting and plating also pose environmental hazards. This increases the cost to build, operate and maintain these operations
8. Limited Control or Visibility at Outsourcers: As manufacturers outsource capital-intensive and environmentally hazardous operations, they lose some visibility into and control over those operations.
9. Unreliable Supply Base: Many companies rely on offshore or non-local suppliers; many respondents suffer from long and uncertain supply lead times. Worldwide metals shortages can also create supply chain challenges.

### **3. Conclusion**

In this research the author used little model to develop strategic thrusts, specific thrust and generic strategy for two main products in Yazd textile industry as shirt fabric and silk handkerchief. To cover this goal firstly the position of these manufacturers in life cycle is determined and then the strategies were extracted based on existing data. Then to determine the competitive position of each product, the data of 52 manufacturers in Yazd was gathered. Finally based on the situation of each product, the strategic thrusts, specific thrust and generic strategy were determined for it.

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