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A Synergy Model for Strategic Planning in Manufacturing Enterprises

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Facing today's dynamic markets and business conditions, manufacturing enterprises must strengthen their production capabilities and develop viable strategies for survival and growth. Strategic planning integrates all elements in corporate plan and allows management to quantify and measure organisational performance. Many well-known planning models or frameworks are generic in nature, while other planning methodologies are specific to particular applications, environments or organisations. This paper reviews the characteristics of various planning models, frameworks and methodologies for strategic planning. A synergy strategic planning (SSP) model for manufacturing enterprises is proposed, and the content and process of the model are presented along with a discussion of the implications for implementing the model for strategy formulation and execution in manufacturing enterprises.

1. Introduction

Competition in industry has been complicated with the number and distribution of buyers and sellers, product differentiation, entry barriers, vertical integration, diversification and cost structures. Business success would rely significantly on the effectiveness of a total planning function [1,2]. Strategic planning (SP) is concerned with the setting of corporate goals, the making of strategic decisions and the development of plans necessary to achieve them [3]. It involves the translation of corporate mission and objectives into strategies and action plans. Various connotations of SP in the literature are given in **Table 1** [3-8]. The SP process concentrates on exploring a variety of critcal variables and suggesting possible cause-and-effect relationships that impact on the operational and business performance of an organisation. This helps the organisation to assess its current and future position, identify critical factors and find methods of assuring success [9]. The planning decisions have a considerable impact on its long-term efficiencies and operation [10]. Recent studies [11-13] show that organisations engaged in SP would always outperform those that have no formalised planning systems.

Over the past three decades, there has been a proliferation of planning models, frameworks and methodologies that assist organisations in identifying competitive threats and new opportunities strategically [14]. They provide a set of diversified tools and aids, or references for strategic planning. However, different planning models and methodologies may lead to varied planning decisions and results. Recent strategy literature has acknowledged the distinction between content (i.e., what is done) and process (i.e., how it is done) of a strategy [15,16]. For instance, **Minor *et al*** [17] reviewed 27 empirical studies in the field of manufacturing strategy and categorised them into process and content aspects. **Bozarth** and **McDermott** [18] reviewed the content-related literature and compared existing typologies and taxonomies. Content-related literature addresses issues of competitive priorities, which includes cost, quality, delivery speed and dependability, flexibility and innovation aspects. Process is a pattern or procedure in which strategy is developed and implemented [16]. **Dangayach** and **Deshmukh** [16] examine manufacturing strategy issues after reviewing a total of 260 papers published in refereed journals and

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TABLE 1: *Various Connotations of Strategic Planning since the 1970s*

Authors	Connotations of Strategic Planning
Drucker (1977) [4]	A continuous process of making entrepreneurial decisions systematically and with the best possible knowledge of their futurity; organising systematically the effort added to carry out the decisions and measuring the results against expectations through organised systematic feedback
Argenti (1980) [5]	A systematic and disciplined study designed to help identify the objective of any organisation or corporate body, determine an appropriate target, decide upon suitable constraints, and devise a practical plan by which the objective may be achieved
Evered (1983) [6]	A process of generating viable directions that lead to satisfactory performance in the market place, given a variety of legal constraints and the existence of competitors
Bean (1993) [7]	The process of determining the long-term vision and goals of an enterprise and fulfilling them
Hax and Majluf (1996) [3]	A disciplined and well-defined organisational effort aimed at the complete specification of a firm's strategy and the assignment of responsibilities for its execution
Kotler (2000) [8]	The managerial process of developing and maintaining a viable fit between the organisation's objectives and resources and its environmental opportunities

international conferences until January 2001, and conclude that the content aspects seem to be the dominant theme in the literature. Moreover, many authors also advocate an integrative planning approach that may address both content and process of strategies and synthesise the industrial organisation economics with corporate, business and functional strategies [1,7]. This paper reviews key features of several planning models and methodologies and provides guidance by developing a synergy approach for the facilitation of strategic planning in manufacturing enterprises. Besides, the pace of change in manufacturing systems was increasing exponentially as information technology tools grew and advanced [2]. Consideration of the advances in enterprise-wide information systems (e.g., Enterprise Resource Planning and Internet-enabled systems (e.g., e-Business and e-Supply Chain) would lead to an exciting review of the operational and performance issues facing companies. This paper also discusses the implications of the new enterprise planning tools on the synergy model.

2. Methodologies and Models for Strategic Planning

A methodology or model can provide direction and/or a set of procedures that may be followed while conducting tasks in order to increase the level of performance and enhance outcomes [14]. **Silverman** [19, p.2] states that, "*methodologies, like theories, cannot be true or false, only more or less useful*". **Earl** [20] categorises different planning models, frameworks and methodologies along two dimensions. The first category stresses the strategic positioning that help assess the strategic importance of organisational situations of the enterprises. These methodologies aim at improving managerial understanding of the current system functions and showing how they should be managed in their particular organisation. **McFarlan and McKenney's** [21] strategic grid and **Earl's** [20] impact model are typical examples. The second category is to identify strategic opportunities and help organisations develop vision, reorient thinking and identify strategic possibilities for their current systems.

Examples include **Porter's** [22] competitive forces model, **Benjamin *et al's*** [23] strategic opportunities framework, **Porter** and **Millar's** [24] competitive advantages framework, **Wiseman's** [25] strategic option generator, **Venkatraman's** [26] IT-induced reconfiguration model, and **Henderson** and **Venkatraman's** [27] strategic alignment model. Based on the traditional manufacturing strategy "*process and content*" [28,29] framework, **Mills *et al.*** [30] proposes a contingency framework for reviewing and analysing the strategic roles and factors relevant to the design of a manufacturing strategy process. **Pun *et al*** [31] also outline a configuration model developed for strategy formulation based on a longitudinal study of planning practices in manufacturing enterprises in Hong Kong. These planning models, frameworks and methodologies have distinct features, with each contributing important ingredients and attributes for holistic, maximally useful strategic planning. A brief account of these models or frameworks and methodologies in chronological order is described below.

2.1 Competitive Forces Framework

In 1980, **Porter** [22] identified five competitive forces, including suppliers, buyers, new entrants, substitute products and existing competitors (see **Fignre 1**). They have different effects on organisations, depending on 10 factors:

(1) Potential rate of growth in the industry;

(2) Threat of entry by new competitors;

(3) Intensity of rivalry among existing competitors;

(4) Pressure from substitute products;

(5) Dependence on complementary products and services;

(6) Bargaining power of suppliers;

(7) Bargaining power of customers;

(8) Sophistication of the technologies applied in the industry;

(9) Rate of innovation within the industry; and

(10) Capability of management.

A sustainable competitive advantage is used to leverage differences in strategic resources and competitive forces. Therefore, a key to competitive analysis is the examination of these major forces and their impact on an organisation's current and future position. An industry and competitive analysis based on the framework would help managers and executives to formulate strategies in the competitive environment of their particular industry.

2.2 Competitive Strategy Framework

In 1983, **M^{c} Farlan** and **M^{c} Kenney** [21] conceptualised the ideas of competitive strategy to help an organisation build structural barriers, and used the value-added chain concept to determine where the organisation could exploit the competitive opportunities. **M^{c}Farlan** [32] extends the competitive strategy framework with a strategic grid tool (see **Figure 2**) that helps organisations assess their current operations and systems strategically. Using information technologies (IT) as an example, where IT is critical to current operations but not the heart of the company's strategic development, they may be seen as a *routine* activity that is critical to sustaining existing business. However, when IT is always crucial to the company's operation and the future is dependent on them, they may be seen as a *strategic* activity that is critical for the company's future success.

2.3 Strategic Opportunities Framework

In 1984, **Benjamin *et al.*** [23] proposed a strategic opportunities framework to raise organisations' awareness of the strategic potentials of their current products, operations and systems. This would determine the need for any significant structural changes. The strategic opportunities framework is depicted in **Figure 3**. The horizontal axis is divided into internal operations and external operations in the competitive market place. The vertical axis is divided into new and traditional products and processes. This matrix framework would help an organisation to identify the strategic opportunities based on its internal

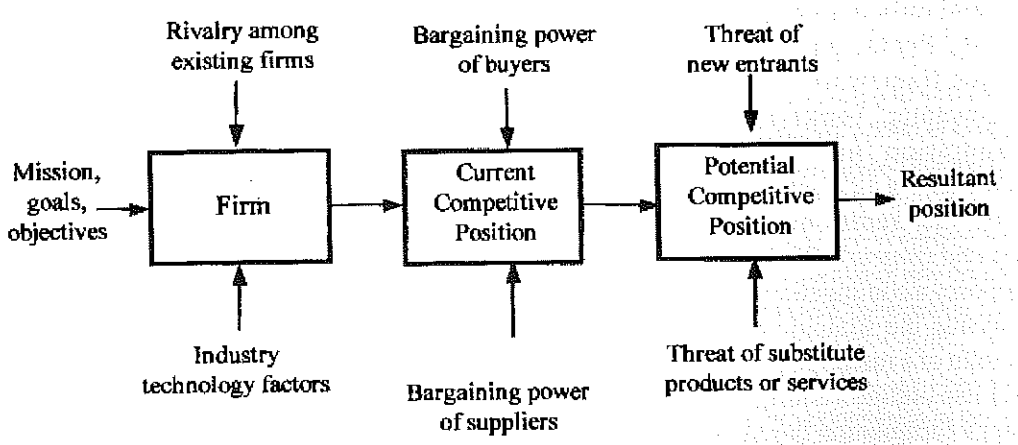

FIGURE 1: *Competitive Forces Framework*
(Source: Adapted from Porter [22])

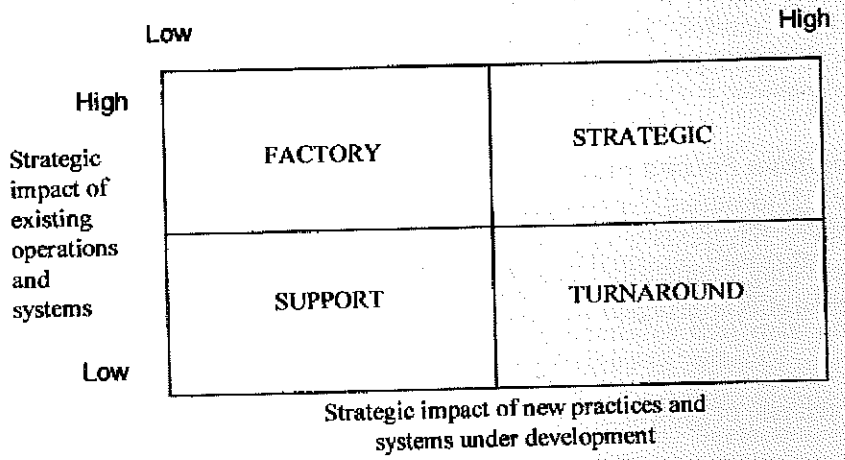

FIGURE 2: *The Strategic Grid*
(Source: Adapted from M^{c} Farlan [32])

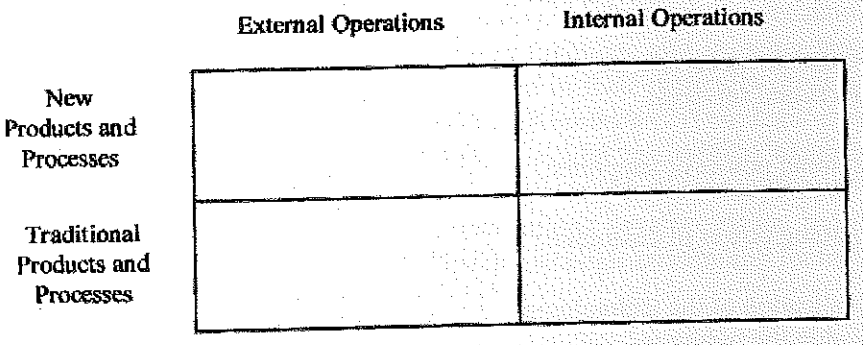

FIGURE 3: *Strategic Opportunities Framework*
(Source: Adapted from Benjamin *et al.* [23])

and external operations, and to evaluate major strengths and weaknesses of its products, operations and systems.

2.4 Competitive Advantage Framework

In 1985, **Porter** and **Millar** [24] proposed a competitive advantage framework to examine the linkage between the business unit activity and the competitive environment. The basis of the framework is that an enterprise exists within an industry and to succeed, it must effectively deal with the competitive forces that exist within the particular industry [22]. The framework uses the value-added chain for supporting strategic analysis, emphasising cost leadership, product differentiation and focused strategies. This assists managers in analysing the competitive context of their business strategy and identifies where the organisations may create a competitive advantage in defending against competitors. The framework requires detailed investigations into the sources and nature of the strategic forces, the feasible actions as well as the likely industry reactions.

2.5 Strategic Option Generator

In 1988, **Wiseman** [25] proposed a strategic option generator in line with the competitive forces framework. This methodology helps organisations create and develop a competitive advantage from strategic thrusts. It relies on a thorough understanding of the state of the industry, the firm's business strategy and competitive position, the determining factors for success and the industry's value-added system. With the strategic targets (i.e., the suppliers, customers and competitors) identified, the firm would choose alternative strategic thrusts including product differentiation, cost leadership, innovation, growth and alliances to attack or defend itself in the competitive arena [24].

2.6 Strategic Impact Model

In 1989, **Earl** [20] advocated a strategic impact model (also known as an expectancy model) that stresses the recognition and analysis of the competitive environment and strategies. This model helps organisations identify their current position and exploit possible opportunities based on the competitive forces [22] and the competitive advantage [24] frameworks. For instance, a firm can focus on being a lower cost producer, on overall product differentiation, or on a niche market. Besides, IT can be used to leverage a particular position to combat competitors who are establishing entry barriers and switching costs, and those who are engaged in product differentiation strategies. This is a generic model and its parameters can be modified to evaluate the strategic impacts facing companies.

2.7 IT-Induced Reconfiguration Model

Based on the MIT90's Research Programme, **Venkatraman** [26] proposed that there be five levels of IT-induced reconfiguration for the technology-strategy connection. Levels 1 and 2 are evolutionary in that they are a natural development from the localised exploitation of IT application (i.e., Level 1) to the internal integration of IT-based links in the organisation (i.e., Level 2). Levels 3, 4 and 5 are revolutionary and do not follow a logical progression. Whereas Level 3 concerns redesign of a business process within the organisation, Level 4 stresses business network redesign involving other organisations that might be suppliers, customers, services or even competitors. Level 5 refers to extending the scope of business that the organisation is involved in, usually by means of a new product [27]. **Burn** [33] extends the scope of the model by including two upper levels of external impact on organisational transformation and societal transformation, respectively (see **Figure 4**). The model provides an architecture that assists managers in assessing the potential impact of any practices and systems (e.g., IT) on their businesses.

2.8 Strategic Alignment Model

In 1992, **Henderson** and **Venkatraman** [27] identified four components for strategic business alignment, namely business strategy, IT strategy, organisational infrastructure and processes and IT infrastructure and processes (see **Figure 5**). Any of these components might be the major focus for change in the strategic alignment process and would impact on the other components for cross-alignments. Management analyses the strategy based on external and internal alignments. The results are compared to determine the six cross-alignment relationships. Management can

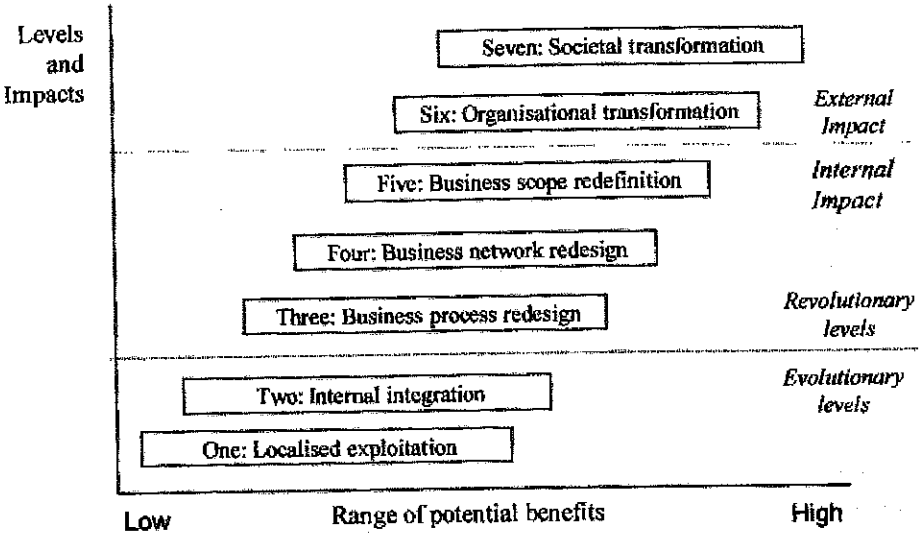

FIGURE 4: *IT-induced Reconfiguration Model*
(Source: Adapted from Venkatraman [26] and Burn [33])

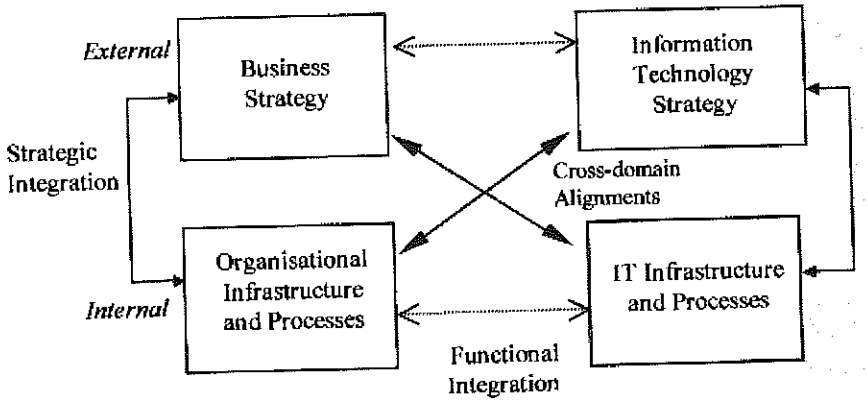

FIGURE 5: *Strategic Alignment Model*
(Source: Adapted from Henderson and Venkatraman [27])

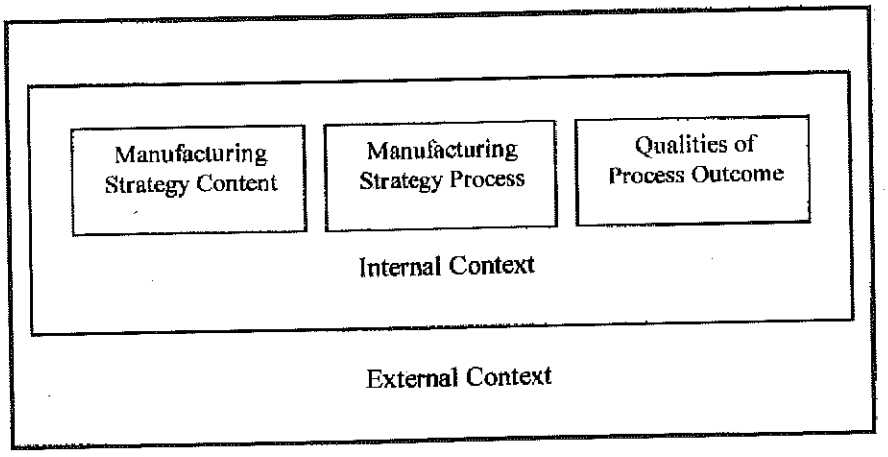

FIGURE 6: *Contingency Framework of Manufacturing Strategy Process*
(Source: Adapted from Mills *et al.* [30**FIGURE 1:** *Competitive Forces Framework*
(Source: Adapted from Porter [22])])

then identify from this where misfits occur and the extent of their impact on the overall planning.

2.9 Contingency Framework for Manufacturing Strategy Processes

The central focus of the contingency framework advocated by **Mills *et al.*** [30] in 1995 was the manufacturing strategy process (see **Figure 6**). It consists of "process, content and context" of a manufacturing strategy. Process refers to how a strategy is made while content is the constituents of the strategy. The context includes both internal factors (e.g., the enterprise's structural, cultural and political facets) and external factors (e.g., sectoral, economic, social, political and competitive environments), the design of which is contingent on the content model(s) chosen and the required qualities of the outcome of the process. The framework has proved useful in diagnosing problems and identifying gaps in areas of past strategy analysis and the ongoing formation of strategy.

2.10 Configuration Model for Strategy Formulation

Figure 7 depicts a generic strategy configuration model that was developed by **Pun *et al.*** [31] for a longitudinal study of strategic planning practices in manufacturing enterprises in Hong Kong. The model consists of seven core elements, namely strategic prerequisites, competitive priorities, strategic decision areas, strategic directions, strategic choices, strategic options and business transformation. The configuration process starts with the identification of strategic prerequisites (e.g., corporate vision and mission) to examination of both competitive priorities (e.g., cost, quality and flexibility) and strategic decision areas (e.g., business process redesign and improvement). The results would help manufacturers to determine the strategic directions (e.g., cost leadership, product diversification and market niche), decide on the proactive or reactive strategic choices and formulate feasible options (e.g., product quality improvement, product and market development). Together as a system, the configuration process would address the business alignment and transformation against competitors and "best-in-class" performance.

3. A Proposed Synergy Model of Strategic Planning

In order to integrate various planning model and methodologies into a coherent strategy system, this paper proposes a synergy approach for strategic planning. It was developed based on **Pun *et al's*** [1] strategy configuration framework that aligns the information system capabilities with corporate strategy formulation. A diagrammatic representation of a synergy strategic planning (SSP) model is given in **Figure 8**. The model comprises 10 building blocks including the **Porter's** [22] competitive forces framework, **M^c Farlan** and **M^c Kenney's** [21] competitive strategy framework, **Benjamin *et al's*** [23] strategic opportunities framework, **Porter** and **Millar's** [24] competitive advantages framework, **Wiseman's** [25] strategic option generator, **Earl's** [20] impact model, **Henderson** and **Venkatraman's** [27] strategic alignment model, **Venkatraman's** [26] IT-induced reconfiguration model, **Mills *et al's*** [30] contingency framework and **Pun *et al's*** [31] strategy configuration model. The synergy of these 10 building blocks provides the theoretical groundwork for assisting manufacturers to configure strategies with respect to various strategic prerequisites and the considerations of competitive priorities, strategic choices and options, and business transformation (see **Figure 9**).

The SSP model addresses strategy contents, processes and contexts [30], interlocking the strategic planning functions with IT links and possible use of enterprise-wide information systems and Internet-enabled systems to attain enterprise integration and performance goals. Built upon **Pun *et al's*** [31] strategy configuration model, the SSP applies the competitive forces model [22] to provide a basis for examining an organisation's current and future position. Strategic prerequisites (e.g., company mission, organisational resources and technology level) competitive priorities (e.g., cost, quality delivery and flexibility) are examined using the strategic opportunities framework [23]. Both the competitive advantages framework [24] and the strategic alignment model [27] are used to examine the strategic decision areas that potentially may produce competitive advantage, emphasising the determination of strategic directions (e.g., cost leadership, product or service

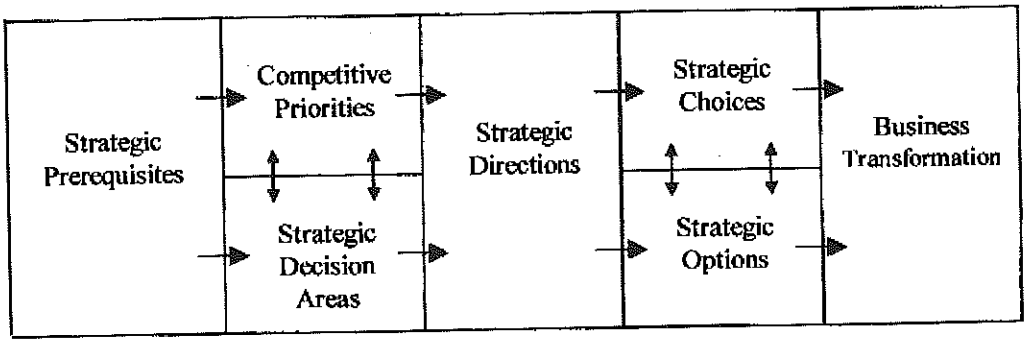

FIGURE 7: *Configuration Framework of Strategy Formulation*
(Source: Based on Pun *et al.* [31])

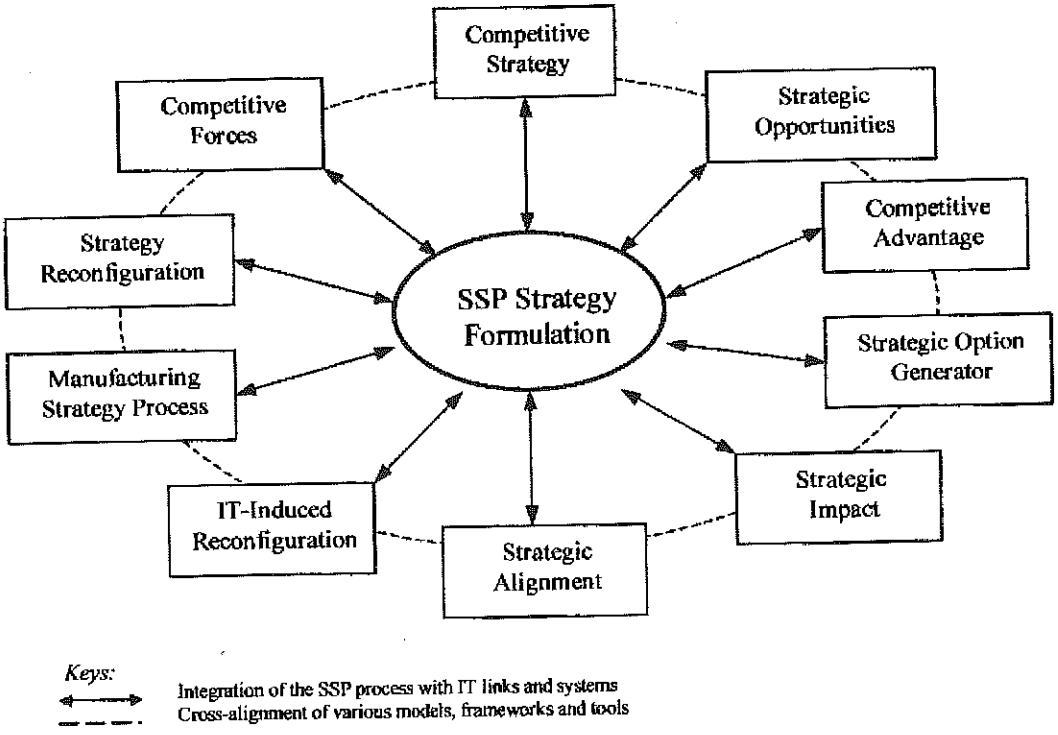

FIGURE 8: *A Synergy Strategic Planning Model*

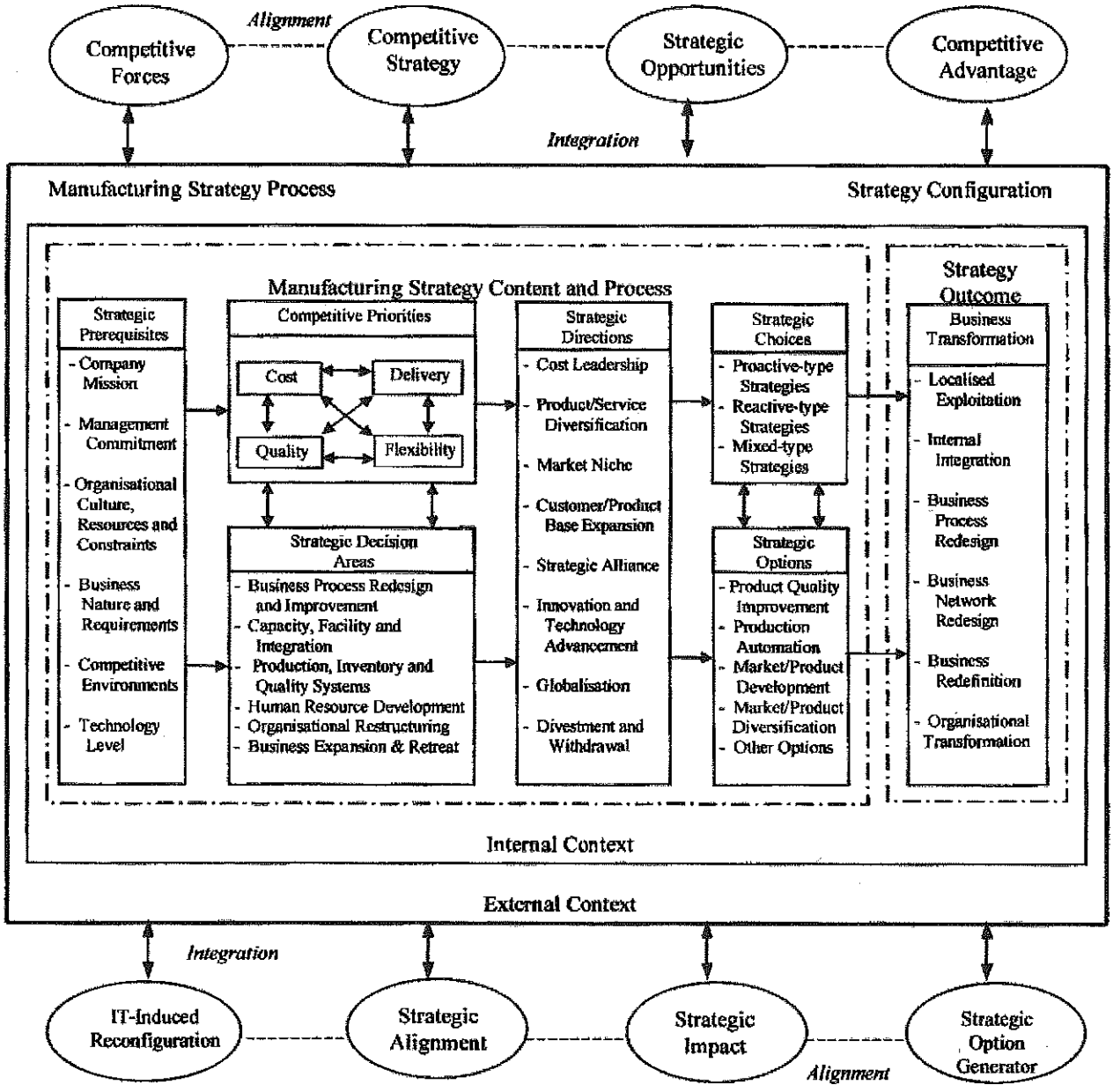

FIGURE 9: *The SSP Process and Strategy Configuration*
(Source: Based on Pun *et al.* [1,31])

differentiation, market niche and strategic alliance). Moreover, the strategic grid [21] and the strategic option generator [25] are employed to reaffirm the firm's position, while the impact model [20] is used to evaluate the strategic choices and options. The IT-induced reconfiguration model [26] embraces the conceptualisation for the technology-strategy connection. The contingency framework [30] incorporates the audit, formulation and implementation of viable strategies, and set forth to achieve a set of desired process outcomes. The SSP model focuses on strategy formulation and execution that supports enterprise integration and performance improvements across an organisation.

4. Implementation of SSP Model

A consistent feature noticeable in successful organisations tends to be that short-term decisions are taken in the context of consistent, carefully thought out long-term corporate strategies [7,11]. The SSP process starts with the management's definitions of corporate vision and mission that allow stakeholders to visualise the company's corporate culture and core values. The chief executive officer (CEO) and function heads should take the initiatives to develop short- and long-term company goals and objectives incorporating the competitive priorities and success factors (e.g., product or service quality, customer services and market accessibility). After identification of the internal growth opportunities and external linkages, the management should provide adequate resources and budgets to match goals and motivate people involvement to meet the corporate, business and functional needs [31]. The organisational capabilities (in terms of corporate, marketing, technology and operation strengths) and business requirements on productivity and profitability should align with the chosen strategic direction (e.g., product differentiation, market niche and market leadership).

In order to avoid falling into the trap of developing separate and distinct strategies and procedures, detailed implementation must be planned and key performance measures must be defined with identification of competitive priorities (such as, quality, cost, productivity and flexibility). The CEO, function heads and middle management must identify from this where misfits occur. The strategic options (e.g., proactive, reactive or mixed strategies) must be tested as hypotheses against the firm's long-term objectives and analysed in terms of required and available resources, constraints of time and other legal, ethical and environmental concerns. Potential strategies must also be evaluated in terms of their interaction or interdependence with other strategies. Those that appear to lead to the attainment of the firm's objectives, and could be implemented with available or attainable resources, would be chosen. Organisations have choices from a variety of strategies that could allow them to exploit the perceived opportunities and avoid threats, while building on their strengths and minimising their weaknesses. The chosen strategies must also support the business transformation and bring benefits from localised exploitation, via internal integration, to process and network redesign, and to business redefinition and organisational transformation [27,31]. Since not all strategies are deliberate, management must also be aware of emergent strategies and the role that they play in the firm's operations [35]. A summary of the strategy audit, formulation and execution is given in **Table 2**.

Implementation of SSP process should focus on activities that are essential to achieving the organisation's corporate plans annually which would result in increasing customer satisfaction, lowering unrelated and unnnecessary costs, and increasing investor value. It must encourage interdepartmental cooperation and empower managers and employees by providing them with authority to carry out planned activities [30,36]. Different manufacturers have tried to implement various planned changes and improvements aligned with their strategies. Some have achieved stunning results while others have been disappointed. Lack of a systematic, structured approach for integrating strategy formulation and execution is the primary cause of the process deficiencies. This may lead to a strategic plan that does not include improvement goals aiming at customer satisfaction, process improvement, and cost leadership. Individual departments are pursuing their own goals and fail to integrate them with overall organisational goals. In many cases, clear responsibilities are limited to local or intradepartmental processes, and improvement goals are assumed to apply only to manufactured goods and manufactured processes. Besides, there is always no clear responsibility for reducing cycle times or waste associated with major businesses' processes [36].

TABLE 2: *The Strategy Audit, Formulation and Implementation*

Process Outcome	Strategy Audit	Formulation	Implementation
Consistency with businesses and functional strategies	*Participation:* Involvement of CEO and function heads and wide awareness within the business that the process is active	*Procedure:* The pssibility of iterations with business and functional strategies *Participation:* Regular feedback on progress to CEO and function heads	*Participation:* Regular feedback on progress to CEO and function heads
Credibility within the business	*Procedure:* Methods for deriving the manufacturing tasks from the business strategy	*Participation:* Appropriate involvement of other functions	*Participation:* Wide and deep dissemination of the strategy
Credibility within manufacturing	*Participation:* Awareness of the strategy process at an early stage	*Participation:* Deep involvement in the creation and checking of strategic options	*Procedure:* Means of achieving widespread understanding of the strategy
Comprehensiveness	*Point of entry:* Wide education of the strategy principles being used	*Procedure:* Tests for comprehensiveness	
Consistency over time	*Procedure:* Method of capturing past strategies	*Procedure:* Methods for recognising the scale and longevity of options	
Consistency between parts of the manufacturing strategy		*Procedure:* Methods of predicting the effect of options in terms of interactions between decision areas	

Source: Based on Mills *et al.* [30]

Each of them would be corrected in the SSP process through the integration of organisation's core competencies and improvement initiatives.

Moreover, the implementation of the SSP process and performance improvements in manufacturing enterprises would generally be facilitated with certain characteristics below:

(1) Formulation of corporate strategies with supporting performance measurement system that blends with the attributes of the existing corporate structure and culture.

(2) Visible leadership and commitment of senior management to corporate strategies, along with active empowerment of improvement and learning initiatives that emerge from lower levels of the organisations.

(3) Creation of a management structure that encourages integration between strategy formulation, performance measures and business operations.

(4) Recognition and adjustment to the needs and abilities of organisational substructures, information and communication.

5. Discussions

Factors such as increased global competition, shortened product life cycles, accelerated technological advancements, and enhanced customer requirements have caused fundamental changes in the manner in which firms compete. Firms can no longer compete solely on the basis of price or cost, and must formulate competitive strategies defined by market-driven requirements [34]. Responding to the needs for value-added operations, efficiency improvement, market niche and social accountabilities is always the driving force of strategic planning.

In many circumstances, the tasks, objectives, direction and involvement, methodological emphasis and administrative context of strategic planning could change with increased organisational maturity. For instance, while support from top management is crucial to success, improvement initiatives often come from middle and lower parts of an organisation. Recognition and encouragement of these initiatives is often key to successful formulation and execution of viable strategies. People training and education is an investment in the corporate commitment to strategic planning and performance improvements that allow the corporate philosophy to be lived. Moreover, companies will continue to access and use information about their operations to sustain their competitive advantage.

The widespread use of enterprise-wide information systems (e.g., Enterprise Resource Planning) and emerging Internet-enabled technologies had brought a profound impact on business operations and the management of supply chain [37]. The challenge facing many manufacturing enterprises with systems at all levels of integration and installed across various computer platforms is how to pull them together and how to keep them running [38]. Careful management and planning are needed as the technology evolves and older systems are upgraded or replaced. For instance, with the emerging Internet and web-enabled technologies, many manufacturing enterprises have shifted from conventional business operations towards an e-Business and supply chain paradigm. The decisions made by the leaders of the operations and information systems areas would have a significant impact on the overall performance and profitability of the organisation.

Different manufacturing enterprises might have specific corporate mission, goals and objectives in line with their organisational resources and constraints. They must identify the strengths and shortcomings of current management practice before prescriptions for the future that can be made. The SSP process relies on a thorough, integrated analysis of the external environment and assessment of internal competencies of an organisation. Strategy formulation and execution must be reviewed and the success must be communicated across the organisation. The model helps manufacturers to identify and establish the parameters for strategy formulation and execution, and allows management to quantify and measure progress, communicate planned changes and accelerate the improvements. In particular, it is useful when the planning horizon is being shortened and with a lot of uncertainty in the turbulent competitive environment faced by today's manufacturing concerns. Flexible adaptation of the model can thus be of competitive advantages that benefit varied manufacturing enterprises of different nature and purposes.

6. Conclusion

Contemporary thinking about corporate strategy encompasses ideas about organisational capabilities [39], core competences [40], organisational learning [41], knowledge management [42] and enterprise resources integration [38,43]. This affects both strategic planning and operations in manufacturing enterprises. Forward-looking enterprises must focus on key characteristics of their business (e.g., strategic capability, core competencies and critical success factors) and examine how they integrate with their planning function [1,2]. The experiences of many large organisations with strategic planning point to significant impact in organisational growth and development. However, there is no one strategy that is optimal for all companies, and the issues of strategic

planning are complex and dynamic. Individual organisations have to determine what makes the most sense in light of their positions in the industry and a thorough, integrated analysis of the external environment and assessment of the organisation's internal competencies [1,31]. Linking strategy formulation to implementation is a challenge that manufacturing businesses face today, but the rewards for those who succeed would be handsome.

This paper reviews the concepts associated with strategic planning, and discusses various planning methodologies and models/frameworks advocated in facilitating strategy formulation in organisations. An attempt has been made to incorporate these methodologies and models/frameworks, and set forth a synergy model for strategy planning. The SSP model stresses both strategy content and process. It encompasses the translation of corporate missions and objectives into organisational strategies, the implementation and evaluation of these strategies, and the amalgamation of plans and actions for business transformation. Using the model helps managers to examine the competitive priorities, and determine the strategic decision areas and direction for their organisations. Nevertheless, the process of strategy formulation is dynamic, and its success relies significantly on the presence of various determinants including the maturity levels of senior management leadership and commitment, employees' experience and motivation, corporate culture and organisational infrastructure, and more importantly, the way that strategy formulation links to strategy execution and performance measurement. Further research will proceed to test and validate the synergy model and investigate the evolution of sector specific model for sustaining competitive advantages of manufacturing enterprises.

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