New Venture Planning
Using Advanced Information Systems Support

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This article describes a research project answering the question "Can advanced information systems, such as expert knowledge-based systems (EKBS) help in business strategy formulation?" The application area chosen was new venture planning for which an object-oriented prototype EKBS, the Business Planning Assistant (BPA), was developed to help a user explore new venture opportunities in the travel industry. Based on the prototype development work thus far, the EKBS has the ability to provide a user with many competitive success profiles, feedback on user potential for successful entrepreneurship, an initial business plan, and a thorough risk analysis.

T The research presented in this paper is concerned with the question "Can advanced information systems, such as expert knowledge-based systems (EKBSs), help in new business strategy formulation?" More specifically, it focuses on how EKBS can help a user formulate a new venture business plan.

EKBS is a branch of artificial intelligence which gained acceptance in business almost two decades ago. An EKBS is designed to replicate functions performed by a human expert. By asking questions and comparing the user's answers with the information stored in the extensive expert knowledge database, the EKBS provides intelligent, knowledgeable answers (Encyclopedia Britannica Online 2001; Mockler and Dologite 1992).

A prototype EKBS, the Business Planning Analyst (BPA), was built that focuses on helping a user explore new venture opportunities in the travel industry. The entire design of the EKBS is based on allowing a user to browse through competitive success profiles (CSP), such as the ones shown in Exhibit 1. These profiles represent scenarios of successful businesses in a selected industry and market segment, and are readily conceptualized as objects or instances of the class competitive success profile. These profiles are the heart of the EKBS design.

Although the prototype is still evolving, some observations are possible. An EKBS for new venture planning could, for example:

- Help to support idea generation by providing various industry and market segment specific CSP.
- Evaluate and provide instant feedback on a user's potential for successful entrepreneurship.

- Guide a user through a systemic and thorough risk analysis of all key factors involved in a new venture.
- Provide an initial business plan that can be used as a starting point for implementing the new venture

Concept and Domain Areas of the Prototype

The BPA prototype has been built around the concept of new venture planning using expert system technologies. According to Mockler (1989a, b), the area of new venture planning is especially suitable for EKBS implementation because:

- The planning process requires decisions based on business planning expertise.
- The number and complexity of tasks involved in the planning process are definable for mapping into an EKBS.
- There are recognized experts in the field.
- The task is well understood and manageable.
- New venture planning requires informed judgment.
- The decision can lead to high payoffs and have practical value.
- The systems domain area, the travel agency segment of the travel industry, is used to test the prototype's technology and concept realization.

Expert Knowledge-Based Systems and the Travel Agency Business

Earlier studies, such as Doll (1989) predicted that expert systems would be one of the successfully applied technologies in the travel agency industry. Crouch (1991) mentioned potential applications areas in that industry, such as accommodation, transportation, and tourism development. In 1993, the Canadian federal government developed a pilot Travel Expert System. The pilot was designed to help travelers prepare travel requests and claims directly on their personal computers rather than prepare forms (McCrindell 1993). More recently, Moutinho, et al. (1996) discussed various expert systems used in the tourism industry, including industry-specific marketing issues. Also, a prototype version of the harmonization and rectification system of European city tourism statistics, an advanced expert system, has been developed by Karl Woeber

Exhibit 1
Sample Competitive Success Profile (CSP)
(Highlights)

	Profile 1	Profile 2	Profile n
Strategic Objective	Major Marketer and distributor of wholesale and retail travel services. Organizer of all types of tours with privately owned tour busses and limousines.	Regional marketer and distributor of retail services to pleasure traveler. Organizer of weekend tours for young travelers.	
Opportunity Dimension	25% are business travelers, growing at 13 % annually. 75% are nonbusiness travelers, growing at 7% annually.	75% are pleasure travelers, growing at 7% annually. The 18–34 age group, growing at 3.5% annually.	
Keys-to-success	"Have ability to"	"Have ability to"	
Customer	Attract business and nonbusiness travelers of all ages; work with all direct providers and small retail travel agencies. Provide corporate incentives and special group programs, meeting planning, limousine, ticket delivery, passport and visa services, in-house frequent flyer program, travel insurance, expert vacation planning, worldwide and local tours.	Attract nonbusiness travelers, provide tours for 18–34 age group. Secure travel services from direct providers and wholesalers, provide expert vacation planning, weekend getaway and regional trips.	
Marketing	Use one segment to promote and complement the other, provide innovative travel packaging, have a wide range of current travel information, project a positive company image.	Use on segment to promote and compliment the other. Sponsor parties, wine and cheese get togethers, use word-of-mouth.	
Operation	Support total computerized access to major providers with on-site interactive telecommunication terminals. Acquire a minimum of 3 locations each with 1,000 sq.ft., furniture, fixtures, equipment, 4 tour buses, 3 limousines.	Use computer software and buy or lease computer systems. Rent a 750sq.ft. office, get office equipment, lease tour bus.	
Financing	Obtain $4 million-loan from commercial bank or investor.	Obtain $1–2 million loan from commercial bank or investor.	
Etc.	.....	.....	
Specific Examples	Liberty Travel, American Express Travel Agency, Club Med, Perillo Tours, Tom Crown Ski Tours, Classic Coach.	Cameo Travel Service, Inc.	
Etc.	....	.....	

(1998). In addition, Law and Au (1998) developed an EKBS for hotel selections in Hong Kong. This system attempts to provide the optimal match between the customer's requirements and available hotel services and facilities.

Today, EKBSs drive many web-based inquiries and other systems on the Internet. Large travel websites (e.g., Internet Travel Network, Microsoft Expedia, and Priceline) and major airlines (e.g., Delta and American) use EKBSs and other advanced IT to conduct web-based tourism information exchanges and business transactions (e.g., ticket sales) electronically directly to the consumer, experiencing the cost-cutting impact of advanced IT on businesses (Mullaney 1999). Despite the success of the Internet and the attempt by large travel websites to bypass the traditional travel agent, 80 percent of all airline tickets in 1998, for example, were still sold by human agents (Gaw 1999).

The Travel Agency as a New Venture

A successful entrepreneur, according to various studies (Brockhaus and Horowitz 1986; Das and Teng 1997; Miner 2000; Rayner 1999; Thomas and Mueller 2000), has certain personality traits (e.g., the need to achieve, risk aversion, creativity, and tolerance of ambiguity). Recent literature includes additional traits (e.g., deal-driven opportunism, proactivity, self-motivation, goal-orientation, and willingness to learn, change, and grow) (Becherer and Maurer 1999; Edwards and Edwards 1998).

A new entrepreneur also requires financial resources and certain management, marketing, and other business skills and knowledge (e.g., decision-making, strategic planning, product focus, financial and accounting sense), leadership effectiveness, as well as the abilities to use outside resources and to transfer skills and profitable opportunities from one industry to another (Teal and Caroll 1999).

Based on these studies, the BPA evaluates the user in terms of the user's entrepreneurial potential before the system provides expert-based guidance on deciding whether to start a new business venture—a travel agency—by helping the entrepreneur to formulate a new venture business plan.

The current size ($3.4 trillion) and predicted growth (expected to double by 2005) of the travel industry makes it an appealing one to be in (Bureau of Labor Statistics 1999). Weak barriers of entry, such as low start-up costs, make it easier to start a new venture in this industry. The above data also shows the industry's competitiveness, which dictates the importance of careful planning. The BPA has been designed in such a way that it provides the entrepreneur with a competitive advantage, if used for the intended purpose of assisting the entrepreneur in starting a new travel agency.

Expert Systems and Entrepreneurship

Since an expert system represents how an expert plans for a new venture, it takes its form from the actual process and the theory built on it. The process represented in the expert system follows closely the competitive market analysis approaches commonly found in Porter (1980), Mintzberg (1989), Brown (1998), and others (Mockler 2002).

Its structure of the analysis of an individual's skills and their relative importance to entrepreneurial success is based on the works of Gulbro and Herbig (1999), House et al. (1996A), Thomas and Mueller (2000), and others (Mockler 2001).

A major contribution of this project is found in the detailed way in which it enables a practical businessperson without the theoretical training to apply that theory to his/her specific new venture-planning problem. It has also led to the situational refinements of general strategic management.

Project Background

The researchers began to develop EKBS in 1986 as a way to gain insight into the enterprise-wide strategic planning process. The systems developed were designed to improve the effectiveness and efficiency of strategic planning. An EKBS for strategic corporate planning is discussed in Mockler and Dologite (1987) and Dologite (1987). It has affinities with the EKBS described in Schumann et al. (1989) and Maybury and Belardo (1992).

While the first EKBS was a generic system, a later prototype focused on helping to determine where use of computer IT would provide a competitive advantage. It is described in Mockler (1989a, b) and builds on the work of Krcmar (1985).

The main lesson learned from the early work was that, unless there are specific feeder systems with impact data from many functional areas, a strategy planner must answer an inordinate amount of EKBS questions. This is tiresome, and the detail required can stretch the limits of the most astute planner. The functional area data, however, are vital to developing an enterprise-wide strategic plan. Without it, any result lacks the realities involved in successful strategy implementation.

Therefore, a second phase of this research, resulted in more than 160 mainly end-user developed EKBSs (Dologite 1993; Mockler and Dologite 1992), focused on developing the feeder systems. Of course, it is unrealistic to expect any organization to dispatch functional area knowledge engineers to build EKBSs to feed all functional area data into enterprise-wide EKBSs for strategy planning. The alternative was to enlist end-users in functional areas to help build some of the necessary feeder systems.

The current third phase returns to the original problem of strategy "formulation" in contrast to the strategy "implementation" focus of phase two, and shifts the focus from

rule-based to object-based EKBSs. Rule-based EKBSs represent knowledge by if-then rules. Such rules contain premises or conditions in the "if" clauses and conclusions in the "then" clauses (Mockler 1989a). An object is a data structure which represents anything tangible or abstract. Object- or frame-based EKBSs hold knowledge (which could be related chunks of data, facts, rules, and hypotheses, etc.) in a single conceptual unit. Frames make use of slots to hold information about an item or object. This information usually covers its attributes and values as well as procedures and pointers for getting facts from other frames in the knowledge base (Mockler 1989b). The object-oriented approach provided, therefore, a natural way to map knowledge in chunks that closer match a strategy planner's mental map of the strategy planning process. Maybury and Belardo (1992), as well as Hiddings (1989), make similar observations about using this approach to building EKBS for strategy planning purposes.

Design of the Prototype

The Business Planning Analyst, is designed so that the user and the prototype, by taking turns using input and output information, will follow the steps outlined below:

1. User selects an industry and market segment of interest.
2. User selects a model (CSP) for the new venture.
3. User provides input on personal characteristics and capabilities.
4. BPA compares user information with the model and provides feedback on entrepreneurial success factors in the industry and in the market segment of interest, the chances of the individual succeeding, and steps which might be taken to improve chances of success.
5. User (or BPA) provides input on local competitors in the same area as the new venture.

BPA compares local competitors with the model and provides a risk analysis and startup business plan.

Creating a diagram, as shown in Exhibit 2, is an early step in the knowledge engineering process involved in creating an expert system, in that it outlines an expert's thinking process when faced with such a situation. Such a diagram provides a structured base for the design of an actual prototype knowledge-based system, and shows the expert process underlying the prototype (Mockler and Dologite 1992). The prototype is in essence being built using the expertise of professional strategy planners, travel agency experts, and computer information system experts knowledgeable in EKBS development.

The expert system shell used in this project is NEXPERT OBJECT. Toolbook is used to build the user interface. Exhibit 3 shows a structure of the actual knowledge-based system—its subject, class, and object, as well as the structure layers of the overall design. The subject is an entrepreneur planning for entry into the travel industry. Class can be thought of as a template that gives an object (the entrepreneurial process of planning for a new venture) and its specific structure and behavior characteristics. The object-oriented development technique used follows the Coad and Yourdon object oriented analysis and design methodology (Coad and Yourdon 1991a and b).

The Prototype's Design Objectives

The following sections discuss how the prototype addresses the major design objectives of competitive success profile selection, entrepreneurship evaluation, risk analysis, and business plan generation for planning a new travel agency venture.
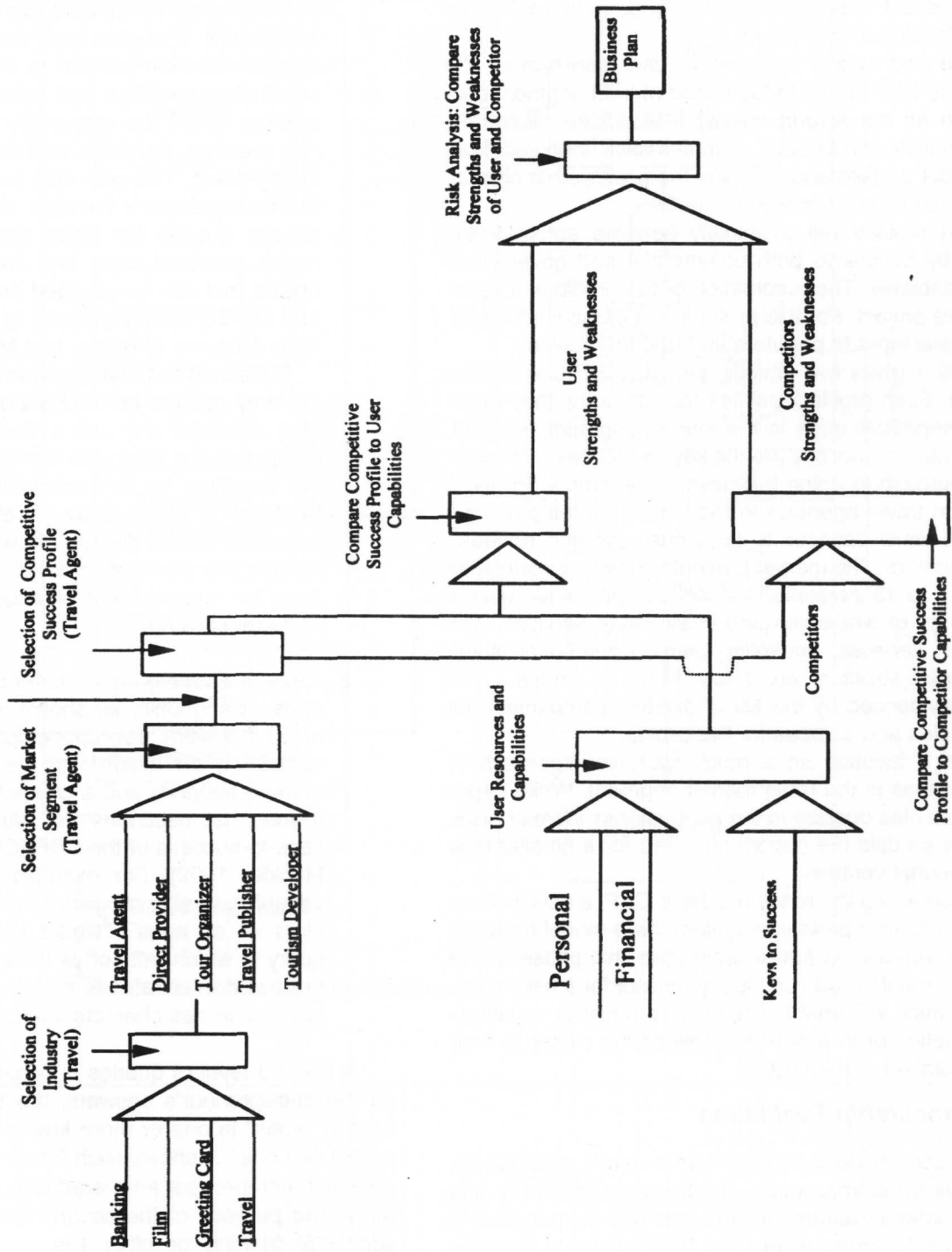
Competitive Success Profile Selection

For the EKBS prototype, the researchers first developed several sample CSP for each of 12 industries/segments, including travel, banking, film, greeting cards, and government agencies. They were developed by analyzing existing competitors and by studying how the market segments work. They represent different approaches to effectively doing business. Each profile identifies attributes that would give a competitive advantage in each industry/segment.

These CSP represent a way human business consultants organize new venture opportunities when working with clients. In the consultant's mind, opportunities are organized as CSP that represent ways of doing business that have made, for example, other travel agencies successful. They serve as models for the potential entrepreneur. When the travel agent segment was selected for further detailed development, additional CSP for that segment were developed.

For the prototype described in this article, before selecting a CSP, a user selects the industry sector and a market segment in which to start the new venture. A user can select to browse industry and market segment possibilities, based on a variety of characteristics or attributes available in the system. As an example, exploring service, versus manufacturing, industries would produce a list of possibilities such as travel, financial, and entertainment. More refined cuts of, for instance, the service sector might concern type of customer, such as business professional, retirees, or young adults. Another cut might focus on profit margins, growth, or market classification status, such as young, maturing, declining, global, or fragmented. Generally, characteristics identified with Porter's (1980) competitive forces model are planned candidate selection criteria. A user with preconceived ideas about the industry sector, such as the travel industry, and possibly the market segment, such as travel agency, for a new venture may

Exhibit 2
Decision Situation Diagram

Competitive Success Profiles within a Single Industry-Market Segment

Selection of Industry (Travel)
- Banking
- Film
- Greeting Card
- Travel

Selection of Market Segment (Travel Agent)
- Travel Agent
- Direct Provider
- Tour Organizer
- Travel Publisher
- Tourism Developer

Selection of Competitive Success Profile (Travel Agent)

Compare Competitive Success Profile to User Capabilities

User Strengths and Weaknesses

User Resources and Capabilities
- Personal
- Financial

Compare Competitive Success Profile to Competitor Capabilities

Competitors
- Keys to Success

Competitors Strengths and Weaknesses

Risk Analysis: Compare Strengths and Weaknesses of User and Competitor

Business Plan

simply make choices available from menu lists. As the diagram in Exhibit 3 indicates, market segments provide a further refinement within a chosen sector. The market segment choices in the prototype travel sector include travel agent, direct provider, tour organizer, travel publisher, tourism developer, and others.

At the end of any selection, a user can browse the appropriate CSP for the industry and market segment chosen, such as the screen display in Exhibit 4 illustrates. These profiles consolidate characteristics inherited from higher order profiles and combine them with other characteristics unique to the individual profile.

These profiles will eventually become automatically updated by access to both commercial and government online databases. The automation of the profile is a separate, future project. For this prototype, a database file simulates online input to populate and update profiles.

Exhibit 1 gives two specific sample CSP used in the prototype. Each profile identifies the attributes that would give a competitive edge in the market segment selected. The attributes essentially are the keys to success for a particular approach to doing business; for example, Profile 1 focuses on travel agencies in the United States providing tours and travel services to both business and nonbusiness customers. The market presents growth opportunities between 7 to 13 percent. The services provided cover a broad range of wholesale and retail travel services. The customers, services, marketing plans, operational plans, and financial structure are listed. Firms in Profile 1 are large as evidenced by the list of existing companies that are examples and sources for this profile.

Profile 2 focuses on a much narrower approach to doing business in the retail market segment. While larger competitors also operate in the nonbusiness traveler area, this profile models the opportunity area for a smaller new entrepreneurial venture.

After browsing the many available CSP, a user selects one, in the current prototype system, as a model for starting a new venture. In future prototypes this phase of the user session will include an idea generator for a new entrepreneur, which will enable the user to develop variations and adaptation or in essence a new profile closer to their specific detailed requirements.

Entrepreneurship Evaluation

The BPA also provides feedback on a user's potential for success as an entrepreneur. As discussed earlier in this article, in order to determine if the user has the potential to be a successful entrepreneur, the BPA initiates a question and answer session. During the session the user's answers are compared with the information stored in the BPA's knowledge database regarding necessary entrepreneurial personality traits, individual management and marketing skills, as well as available financial resources.

This entrepreneurial evaluation component of the BPA is presented in two parts:

1. *Personal queries/feedback/recommendation:* One of the displays associated with this part analyzes an individual's strengths and weaknesses. The BPA queries the entrepreneur in different areas of personal characteristics and behaviors, which include queries about the propensity of competitiveness, risk aversion, problems and challenges, and learning-by-doing. This part also includes queries about the entrepreneur's financial resources . The BPA checks queries for three sources: the entrepreneur's personal cash and cash equivalents, any assets that can be pledged as collateral for loans, and any borrowing capacity or credit that is accessible (Cheung, Dologite, and Mockler 1992).

   Based on the self-reported responses, the BPA not only renders an analysis of personal traits, but also estimates the user's financial resources and compares that total with the required start-up funding specified by the associated CSP. Immediate feedback is provided by the BPA in the form of a recommendation display, shown in Exhibit 5, which include the personal evaluation and also suggestions for improvement or acquisition of additional financial backing.

2. *Keys-to-Success queries/feedback/recommendations:* Each CSP, as shown in Exhibit 6, is organized in several descriptive components, each one containing an action verb (e.g., attract, provide, market, support) and a characteristic profile in text format that describes the attributes, or so-called keys-to-success of the CSP (Cheung, Dologite and Mockler 1992). For example, "Do you have the capability to attract business and nonbusiness travelers of all ages?" would be a keys-to-success query in which "attract" is the action verb and business and nonbusiness travelers of all ages is the key-to-success characteristic of this CSP.

A second level of queries is presented, only if, based on the entrepreneur's answers, the BPA determines the user is "weak" in one or more key-to-success areas. The associated display shows such "weak" areas, in which the potential entrepreneur answered with an *average* or *weak* reply. The purpose of the second level is to determine if additional training or other resources are available to strengthen the user's areas of weakness.

The evaluation provided becomes part of the user's business plan, if the new venture has potential for success. If the match is not strong enough, the viewer is encouraged to study other CSP.

Exhibit 3
Business Planning Analyst (BPA): Knowledge-Based System
Subject, Class and Object, and Structure Layers
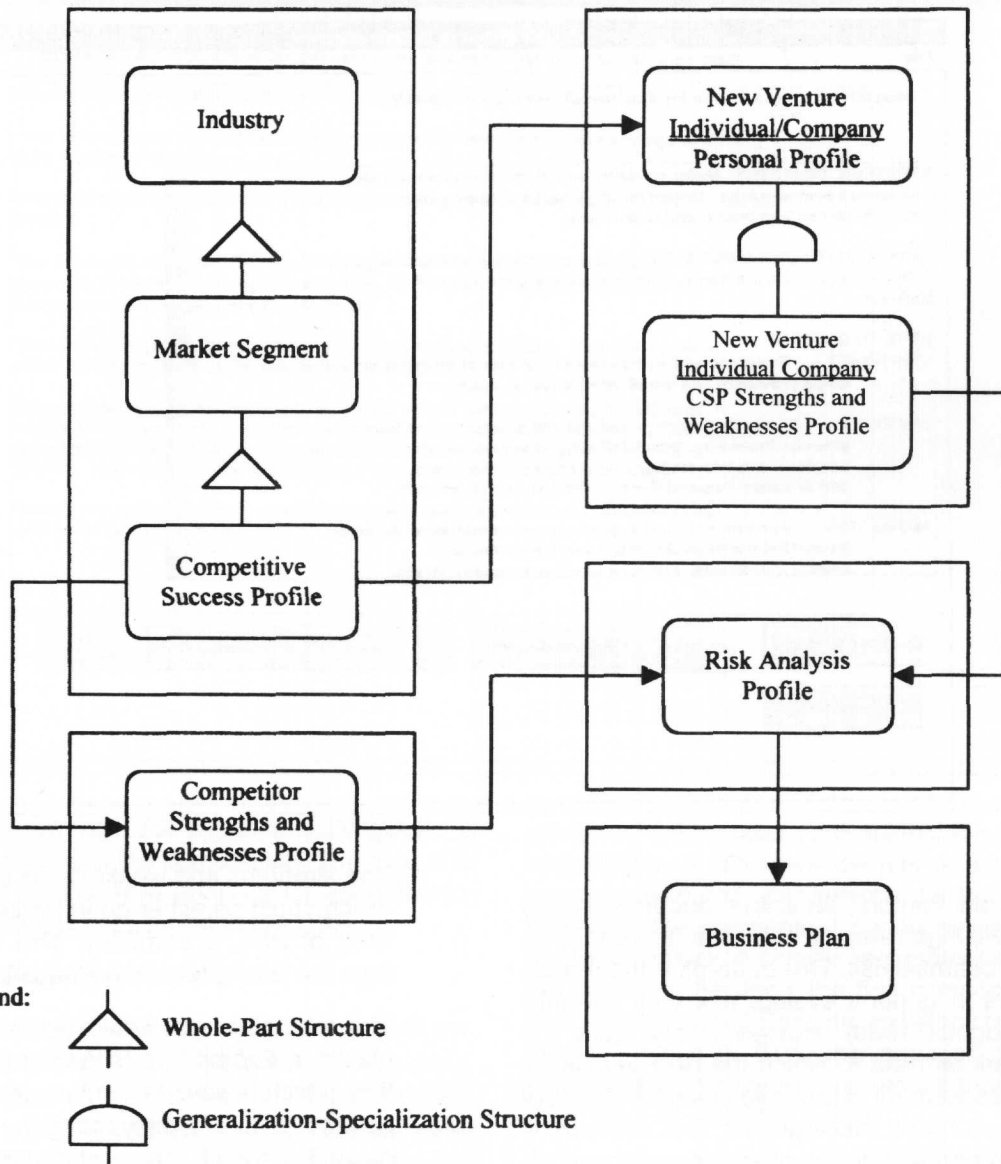
Legend:

△ Whole-Part Structure

⨅ Generalization-Specialization Structure

Exhibit 4
Competitive Success Profile Display

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┌──────────────────────────────────────────────────────────────────────────────┐
│ ▦                          The Business Planning Analyst                     ◉ │
│ File                                                                           │
├──────────────────────────────────────────────────────────────────────────────┤
│  Competitive Success Profile for the Travel/Travel Agent industry :            │
│  ┌──────────────────────────────────────────────────────────────────────────┐ │
│  │ STRATEGIC OBJECTIVE: Major marketer and distributor of wholesale        ▲ │ │
│  │ and retail travel services. Organizer of all types of tours with          │ │
│  │ privately owned tour buses and limousines.                                 │ │
│  │                                                                            │ │
│  │ OPPORTUNITY DIMENSIONS: 25% are business travelers, growing at             │ │
│  │ 13% annually. 75% are non-business travelers growing at 7%                 │ │
│  │ annually.                                                                  │ │
│  │                                                                            │ │
│  │ KEYS TO SUCCESS:                                                           │ │
│  │ CUSTOMER -   Business and non-business traveler of all ages, all           │ │
│  │              direct providers and small retail travel agencies.            │ │
│  │                                                                            │ │
│  │ PRODUCT -    Corporate incentive and special group programs, meeting       │ │
│  │              planner, limousine, ticket delivery, passport and visa        │ │
│  │              services; expert vacation planning, travel insurance,         │ │
│  │              and in-house frequent flyer; worldwide and local tours.       │ │
│  │                                                                            │ │
│  │ MARKETING -  Use one segment to promote and compliment the other,          │ │
│  │              innovative travel packaging, have a wide range of             │ │
│  │              current information, project a positive company image.     ▼ │ │
│  └──────────────────────────────────────────────────────────────────────────┘ │
│                                                                                │
│   ┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐    │
│   │ Continue to step 3│      │  See next profile│      │       Exit       │    │
│   └──────────────────┘      └──────────────────┘      └──────────────────┘    │
│   ┌──────────────────┐                                                         │
│   │    Previous      │                                                         │
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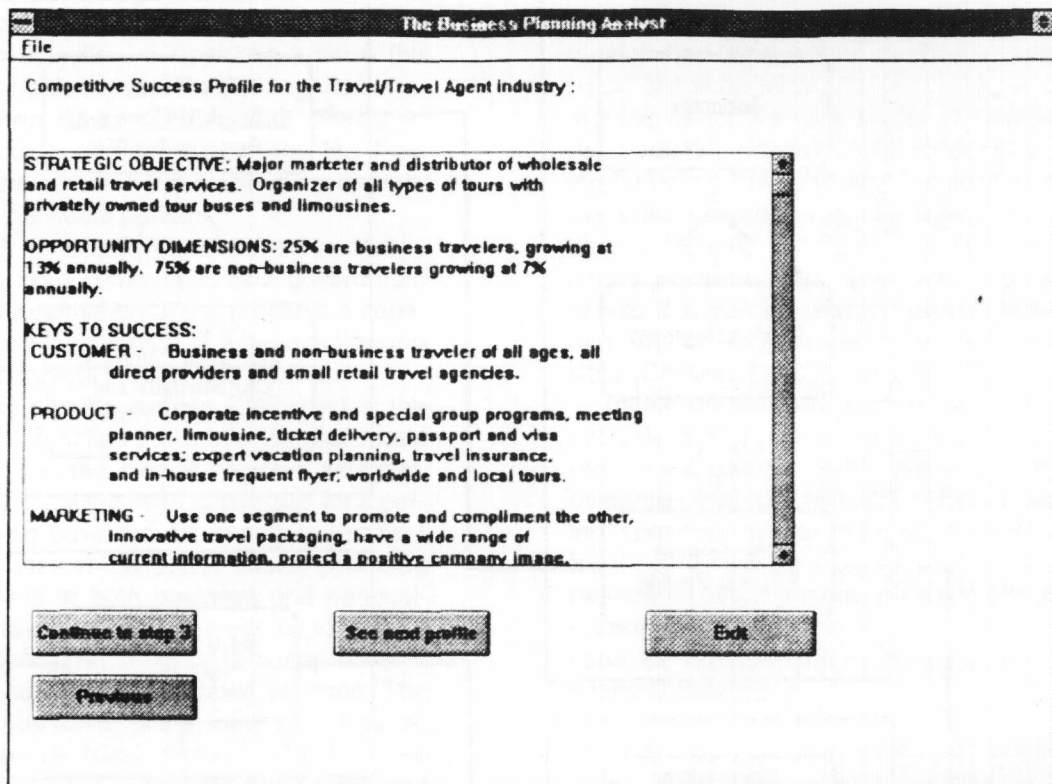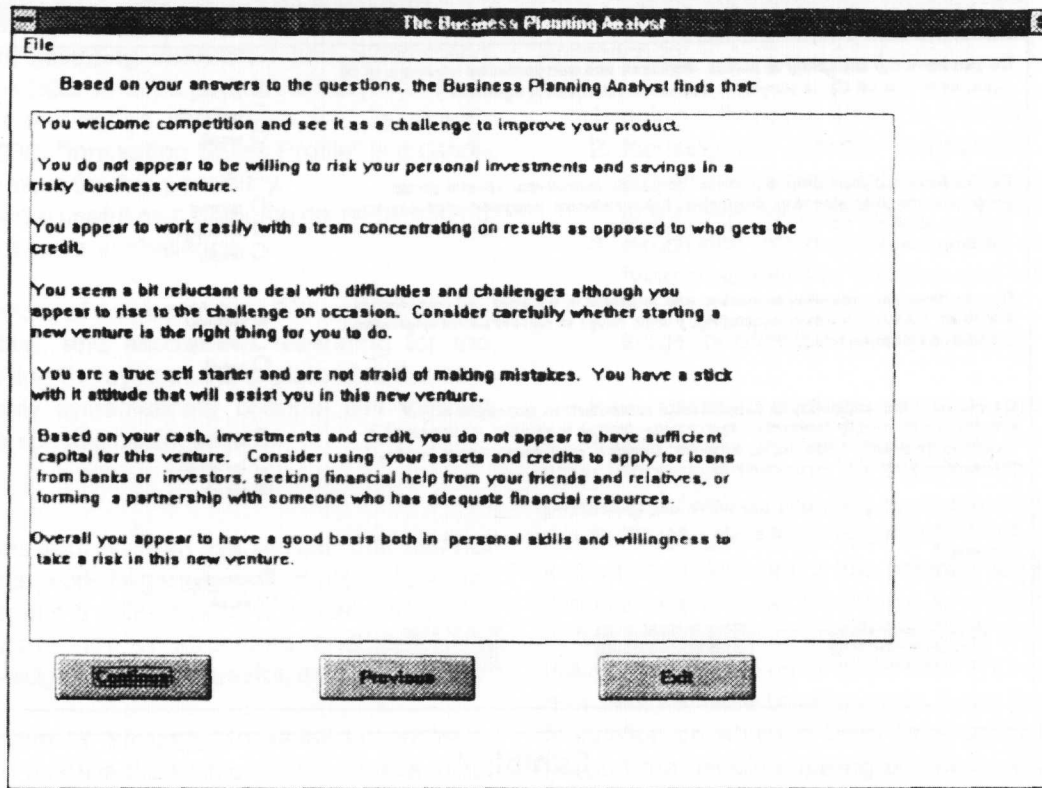
Risk Analysis

When starting a new venture, an entrepreneur is usually driven by potentially high rewards. However, the entrepreneur also faces substantial risk. This trade-off is the reason why entrepreneurs in general evalute risk very carefully (Kuratko and Hodgetts 1989). Hussey (1994) calls the examination of various risks to which the new venture is subject, and the assessment of possible financial effects of the various risks, as "good management." He also states that a risk analysis can lead to the abandonment or modification of a new venture start-up. A risk analysis, acccording to Digman (1990), involves the determination of unfavorable outcomes possible as the result of a decision or action, and the evaluation of how likely it is that one or more of these undesirable events will occur.

In regard to new venture planning, a final risk analysis emphasizes mainly the competitive threats to the new venture. During this phase the BPA asks the user direct questions about potential competitors who provide the same products or services as the planned new venture. The information to be entered into the BPA during the risk analysis covers the following aspects:

1. The strengths and weaknesses of the entrepreneur, which could be either an individual, or, in later iterations of BPA, a company. This information comes from the entrepreneurial evaluation phase.

2. The strengths and weaknesses of competitors. As shown in Exhibit 7, a BPA user enters this information, which is saved for future use. The data at present consists of simply rating the competitor, in this case Truetravel, on a strong-average-weak-none scale in each key-to-success area derived from the CSP. The collected data has potential for reuse in similar new venture risk analyses. It also can serve as input to refining data in the CSP.

3. The result of comparing the strengths of the individual/company under study with the strength of each competitor, or possibly each competitor group, is shown in Exhibit 8. This result reports the chance of the new venture succeeding against each competitor. The rating scale ranges from very strong to very weak.

Exhibit 5
Personal Queries Recommendation Display

The Business Planning Analyst

File

Based on your answers to the questions, the Business Planning Analyst finds that

You welcome competition and see it as a challenge to improve your product.

You do not appear to be willing to risk your personal investments and savings in a risky business venture.

You appear to work easily with a team concentrating on results as opposed to who gets the credit.

You seem a bit reluctant to deal with difficulties and challenges although you appear to rise to the challenge on occasion. Consider carefully whether starting a new venture is the right thing for you to do.

You are a true self starter and are not afraid of making mistakes. You have a stick with it attitude that will assist you in this new venture.

Based on your cash, investments and credit, you do not appear to have sufficient capital for this venture. Consider using your assets and credits to apply for loans from banks or investors, seeking financial help from your friends and relatives, or forming a partnership with someone who has adequate financial resources.

Overall you appear to have a good basis both in personal skills and willingness to take a risk in this new venture.

[Confirm]   [Previous]   [Edit]

Like a live consultant, BPA systematically guides a user through an analysis of the competition. The goal is to provide a detailed comparative analysis for each key-to-success and opportunity area found in the CSP.

Business Plan Generation

The next and final design objective of the BPA is the generation of a business plan for the potential entrepreneur. Since a business plan is the written document that details the proposed new venture and functions as "the entrepreneur's roadmap" for a successful enterprise (Kuratko and Hodgetts 1989; Berkowitz et al. 2000), it forces entrepreneurs to analyze the venture in detail and design an effective strategy to cope with the arising uncertainties. In addition, the above sources and others (Rowe et al. 1994; Hitt, Ireland, and Hoskisson 1995) state that a business plan can also help identify a new venture that is destined to fail.

In the case of this prototype, it essentially converts the results of comparing the strengths of the individual/company under study with the strength of each competitor, or competitor group into a presentation script. The script gives the results of the comparison of the individual under study and the selected CSP against the profiles of potential competitors. It estimates the risk of a new business succeeding given the CSP selected by the entrepreneur, and considers the reactions of strong potential competitors to the new venture. A sample recommendation covering only the Business Strategy, the first component of a business plan, and Personal Recommendations is shown in the display in Exhibit 9. BPA also provides detailed marketing planning and implementation recommendations, as indicated at the bottom of the exhibit.

Limitations of the System and the Next Phase

The BPA is still evolving and needs work before it can be verified and validated. More work remains in many areas. For example, an expanded BPA:

- would function as an idea generator to allow an organization, as well as an individual, to create a truly new, original, venture.
- would be flexible enough to be used for organizational self-assessment, perhaps using methods developed by Miller (1988).

Exhibit 6
Keys-to-Success Queries Display

The Business Planning Analyst

File

Do you have the capability to attract business and non-business travelers of all ages; work with all direct providers and small retail travel agencies ?
- ● strong
- ○ average
- ○ weak

Do you have the capability to provide corporate incentives, special group programs, meeting planning, limousine, ticket delivery, passport visa services, vacation planning, travel insurance, in-house frequent flyer program, worldwide and local tours
- ○ strong
- ● average
- ○ weak

Do you have the capability to market one segment to promote and compliment the other, innovative travel packaging, a wide range of current travel information, a positive company image ?
- ● strong
- ○ average
- ○ weak

Do you have the capability to support total computerized access to major providers with on-site interactive telecommunication terminals; minimum of 3 locations each with 1,000 sq. ft., furniture, fixtures, equipment, 4 tour buses, 3 limousines ?
- ○ strong
- ○ average
- ● weak

Do you have the capability to obtain a $4 million loan from a commercial bank or investor ?
- ○ strong
- ● average
- ○ weak

[Continue]   [Previous]   [Exit]

Exhibit 7
Risk Analysis Data Entry Display

The Business Planning Analyst

File

RISK ANALYSIS DATA ENTRY - COMPETITOR 1

Enter competitor's name:

Truetravel

Key to Success Areas

Key to Success Area	Rating
attract business and non-business travelers of all ages; work with all direct providers and small retail travel agencies	strong
market one segment to promote and compliment the other, innovative travel packaging, a wide range of current travel information, a positive company image	average
provide corporate incentives, special group programs, meeting planning, limousine, ticket delivery, passport visa services, vacation planning, travel insurance, in-house frequent flyer program, worldwide and local tours	weak
obtain $4 million loan from a commercial bank or investor	none
support total computerized access to major providers with on-site interactive telecommunication terminals; minimum of 3 locations each with 1,000 sq. ft. furniture, fixtures, equipment, 4 tour buses, 3 limousines	n/a

Options are:
strong,
average,
weak, none,
n/a (for not applicable or unknown)

- would automate at least a portion of the labor-intensive task of creating and updating CSP with data available from online financial, government, bibliographic, and other database services.
- would offer an assessment of a user's preferred strategy for fostering innovation and recommend approaches tailored to the individual's style for handling the new venture challenges that lie ahead. Miller's (1989) "Innovation Styles Profile" is a candidate instrument for this possibility.
- would become useful as a planning game by adding elements of fun and challenge.

A major limitation, of course, is that BPA cannot do the creative, innovative, and associative reasoning for the planner, who is using the system. As explained in the conclusion, it can only systematically channel this thinking toward creating a specific business plan.

Conclusions

One of the lessons learned from this project, that has not changed since this work began, is that strategy formulation problems, remain a difficult area to model and implement. The problems are ill structured and require a substantial knowledge base to be useful, even for tutorial-level systems.

When modeling a strategy formulation problem, objects hold more promise than sequential business rules, since objects provide not only a modeling method that closer approximates how a planner thinks in logic chunks, but also the structure to enable designing idea generation browsing capabilities that are observed to be essential in designing a strategy formulation support environment.

In its present form, BPA provides a systematic approach to:

1. doing a thorough situation analysis,
2. focusing on specific competitors and competitor groups in the marketplace and their relative position to the new venture, and
3. structuring this material in a way that enable specifying precisely the creative and innovative thinking required, evaluating alternatives and setting the stage for effective implementation.

It incorporates strategic planning process theory into an action format, which channels but does not stifle creative innovative thinking. In this way it can assist in doing planning as well as learning to do planning.
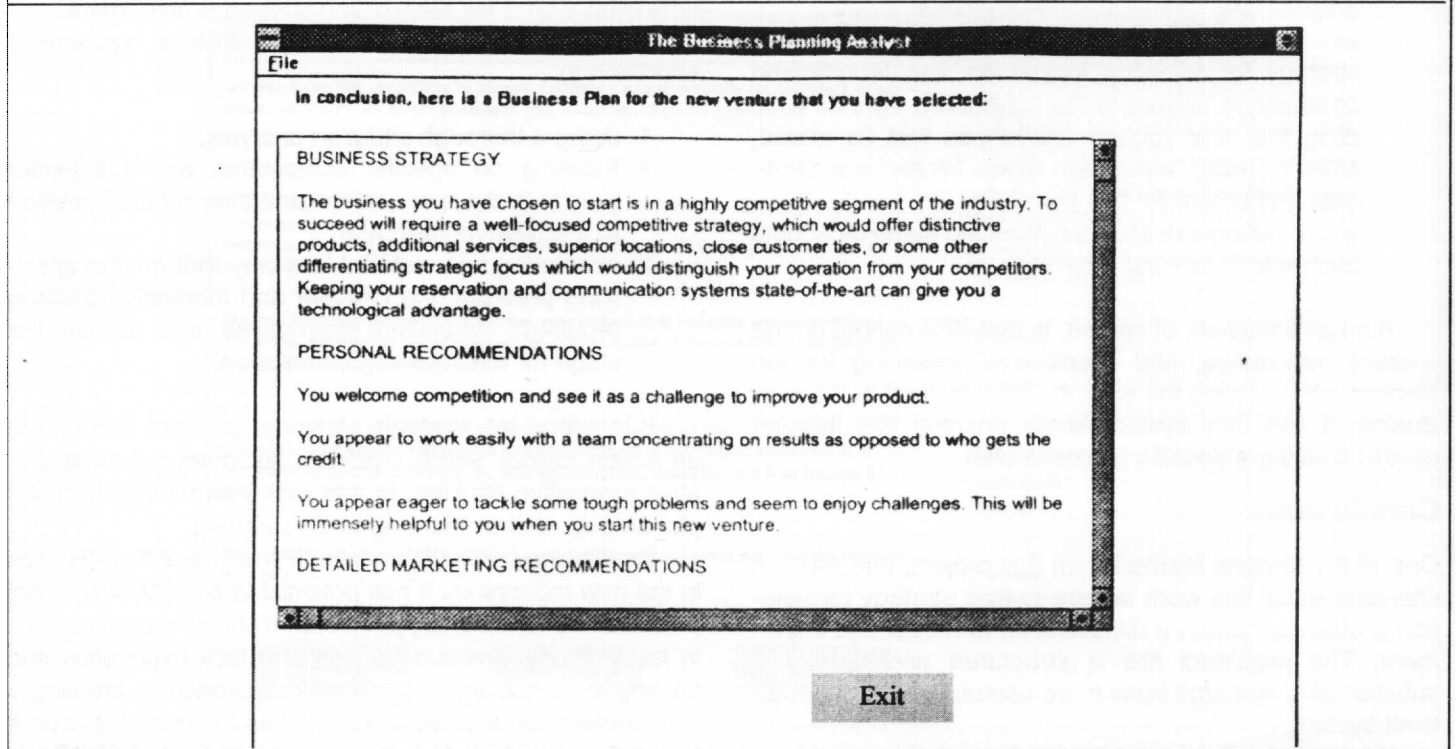
Developing an EKBS such as BPA has specific relevance in the new millennium. It has potential to provide substantial practical help for visionary people, who shun the corporate life in favor of entrepreneurship, but who lack experience and training in developing a systematic approach to creating a new venture. On a broader scale, it has the potential to be a foundation on which to build more sophisticated EKBSs to support the decision-making processes involved in strategy formulation and implementation planning.

Exhibit 8
Risk Analysis Worksheet Display

The Business Planning Analyst

File

| Key to Success Areas | RISK ANALYSIS | | | Your | |
	Your Profile	[1] Truetravel	[2] Intertravel	[1] Comparative Strength	[2]
		(you/competitor: ++ very strong, + strong, - weak, -- very weak, 0 neutral)			
attract business and non-business	strong	strong	weak	0	++
provide corporate incentives, spe	strong	average	weak	+	++
market one segment to promote o	strong	weak	none	++	++
support total computerized acces	weak	none	strong	0	--
obtain $4 million loan from a com	average	n/a	average	0	0

Exhibit 9
Sample Business Plan Segment Display

The Business Planning Analyst

File

In conclusion, here is a Business Plan for the new venture that you have selected:

BUSINESS STRATEGY

The business you have chosen to start is in a highly competitive segment of the industry. To succeed will require a well-focused competitive strategy, which would offer distinctive products, additional services, superior locations, close customer ties, or some other differentiating strategic focus which would distinguish your operation from your competitors. Keeping your reservation and communication systems state-of-the-art can give you a technological advantage.

PERSONAL RECOMMENDATIONS

You welcome competition and see it as a challenge to improve your product.

You appear to work easily with a team concentrating on results as opposed to who gets the credit.

You appear eager to tackle some tough problems and seem to enjoy challenges. This will be immensely helpful to you when you start this new venture.

DETAILED MARKETING RECOMMENDATIONS

Exit

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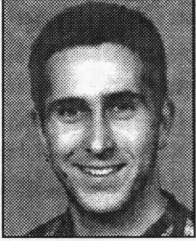
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