INVESTIGATION

**Technical**

Technology Concept Analysis

**Definition**: The process of determining that the physical features of the concept are potentially achievable and operational.

**Objective**: The objectives of the technical concept analysis are to succinctly define the concept, to assess the implementation potential of the technical aspects of the concept, and establish the uniqueness of the technical concept.

**Product**: The product of this activity is a verbal description, schematic, formula, conceptual model or paper design, delineating the main features of the technical concept.

**Technical Activities**: During the technical concept analysis, the following activities must be completed:

* Define the concept fully
* Demonstrate that performance assumptions are viable
* Assess critical barriers to production
* Survey the state-of-the-art of the technology
* Estimate the working models costs.

**Technical Information**: The technical concept analysis usually will result in knowledge about the features of the technical concept, performance expectations, prior art, and other similar or related research and development activities.

**Assessment:**

Have you completed a technology database search?

Have you researched related patents or copyrights?

Have you researched technical journals and trade magazines?

Have you discussed the topic with experts?

Do you know the current state-of-the-art competitive technologies?

Have you selected the technologies for this application?

Have you determined the advantages of this technology?

Have you determined the risks for this technology?

**Market**

Market Need Assessment

**Definition**: The process of determining whether the concept demonstrates superior ability over current solutions to meet a market need.

**Objective**: The objectives of a market needs assessment is to identify a potential market for the concept, estimate the market size and determine a preliminary value of the product.

**Product**: The product of this step is a short summary of information, from trade journals, data bases, and interviews, which follows the marketing section of a standard business plan format.

**Marketing**: The marketing activities common to this step are those activities necessary to demonstrate the product is unique and sustainable in a competitive marketplace.

During the conceptual phase the following marketing activities must be completed:

* Identify three unique features or benefits of the product
* Identify the competition
* Establish customer requirements for the product
* Identify potential market barriers
* Identify market distribution channels
* Identify product pricing criteria

**Marketing Information:** Completion of the conceptual marketing needs assessment usually will result in a rationale of why the product will receive a positive market response, gross estimates of the market and its segmentation, a simple explanation of how the product will be marketed, and an estimated price for the product.

**Assessment:**

Have you assessed the needs of the market?

Do you know the product uniqueness?

Do you know the product competition?

Do you know the customer requirements?

Have you identified the barriers to market entry?

Have you identified distribution channels?

Do you know the pricing criteria?

**Business**

Venture Assessment

**Definition**: The process of determining whether the business opportunity demonstrates profit potential.

**Objective**: The objective of the venture assessment is to determine if the concept offers sufficient profit potential to pursue additional investment of time and money for additional research.

**Product**: The product of this step is a brief description of the business model.

**Business Activities**: The research activities common to this step are those necessary to demonstrate the concept will generate a profit and the organization is capable of taking the product to market.

During the conceptual phase at least the following business activities must be completed:

* Identify financial, physical, and human resources required for commercialization
* Identify the status of intellectual property requirements
* Establish a positive profit potential

**Business Information**: Completion of the conceptual venture assessment usually will result in an estimate of the revenues and costs of product sales, identification of source and use of capital for the development phase.

**Assessment:**

Do you have experience in launching a business enterprise?

Does this venture appear to have profit potential?

Are you the right person to commercialize the product?

Is your enterprise the right one to commercialize the product?

Have you estimated the resources (capital and service providers) required to launch your venture?

Have you researched the intellectual property considerations?