

Business Building Model (BBM)

Check where the organisation is in the four major dimensions (technical, Market, Business and Operations) using the hyperlinked checklists.

Operations is a newly added dimension to the model and does not as yet have a set of corresponding guidelines.

	Technical	Market	Business	Operations
Investigation Phase				
1. Investigation	Technology Concept Analysis	Market Needs Assessment	Venture Assessment	Contracts & agreements
Development Phase				
2. Feasibility	Technology Feasibility	Market Study	Economic Feasibility	Registrations Co-Tax-PAYE etc.
3. Planning	Engineering Prototype	Strategic Marketing	Strategic Business Plan	Organisational & operational structure
4. Introduction	Pre-Production Prototype	Market Validation	Business Start-Up	Human resource planning & training
Commercial Phase				
5. Full Scale Production	Production	Sales and Distribution	Business Growth	Policies and Procedures
6. Maturity	Production Support	Market Diversification	Business Maturity	Efficiency review

1. TECHNICAL

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1.1. 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?

1.2. Technology Feasibility

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Definition: The process of proving that the concept is technically possible.

Objective: The objective of the technical feasibility step is to confirm that the product will perform and to verify that there are no production barriers.

Product: The product of this activity is a working model.

Technical Activities: During the technical feasibility step the following must be completed.

- Test for technical feasibility;
- Examine the operational requirements;
- Identify potential safety and environmental hazards;
- Conduct a preliminary production feasibility assessment;
- Conduct a preliminary manufacturing assessment;
- Estimate engineering prototype costs

Technical Information: The technical feasibility step generates knowledge about the product or process's design, performance, production requirements, and preliminary production costs.

Assessment:

Do you have a working model of the product?
Have you evaluated the safety factors of the model?
Have you evaluated the environmental factors?
Have you evaluated the feasibility of producing the product?
Have you measured how the product will perform?
Do you have a design for the product?
Do you have a design for the production process?

1.3. Engineering Prototype

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Definition: The process of identifying the most appropriate and efficient materials, processes, and designs suitable for commercial production to be incorporated into the product.

Objective: The objective of the engineering prototype is to make improvements in materials, designs, and processes in the product and to verify the product will perform as specified.

Product: The product of this activity is an engineering prototype or a pilot process.

Technical Activities: During the engineering prototype step, the following activities must be completed.

- Identify materials, processes, components, and manufacturing steps required to meet technical performance and specifications
- Test materials, components, processes
- Design and construct a pilot process or engineering prototype
- Optimize the design iterations
- Conduct final tests
- Estimate pre-production prototype costs

Technical Information: The engineering prototype usually will result in knowledge about the product specifications, the required manufacturing process to produce the product, proof of expected reliability, and refined production cost estimates.

Assessment:

Do you have an engineering prototype of the product?
Have you identified what critical materials you will need?
Have you conducted final tests on the prototype?
Do you have a pilot production process?
Do you know how reliable the manufacturing processes are?

1.4. Pre-Production Prototype

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Definition: The process of preparing the product for introduction into the marketplace.

Objective: The objective of the pre-production prototype is to develop the manufacturing processes and techniques required to produce the product.

Product: The product of this activity is a pre-production prototype or process.

Technical Activities: During the pre-production prototype step the following activities must be completed:

- Develop a pre-production prototype
- Determine pre-production processes
- Select final product materials and components
- Select manufacturing procedures, equipment, and tools;
- Assess specification conformance
- Test product performance, reliability, and quality
- Design a field support system
- Calculate full production costs

Technical Information: The pre-production prototype step usually will result in knowledge about the manufacture-ability of the product, the manufacturing processes, maintainability and reliability, material and component lists, plans for field support, installation and production costs, safety and environmental factors, time schedules, and regulatory requirements.

Assessment:

Do you have a production prototype of the product?

Have you conducted pilot production?

Have you selected the manufacturing process?

Have you selected the manufacturing equipment?

Have you conducted full-scale production?

Do you have a commercial-level design?

Do you have quality control procedures?

Have you produced sufficient quantities for market

1.5. Production

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Definition: The production step is that period during which the manufacturing process is built and full-scale production runs are implemented.

Objective: The objective of the production step is to put a new product into commercial production and optimize the manufacturing process.

Product: The product of this activity is a market-ready product.

Technical Activities: During the production step, the following activities must be completed.

- Final commercial level product designs
- Produce manufacturing process schematics
- Institute quality control procedures
- Finalize distribution system
- Construct manufacturing facilities
- Implement trial run
- Make minor modifications
- Conduct full scale production run

Technical Information: Completion of the production step usually will result in knowledge about production levels and costs, inventory requirements, manpower allocations, production bottlenecks, vendor requirements, distribution factors, manufacturing reliability and maintainability, and product performance and reliability.

Assessment:

Do you support commercial production?

Do you have after market support for the product?

Have you improved the production process?

Do you support a warranty?

1.6. Production Support

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Definition: The product support step is that period during which the product or process realizes a useful life.

Objective: The objective of the production support step is to maintain maximum value of the product or process through continual improvement in the technical aspects of the production process.

Product: The product of this activity is a competitive product.

Technical Activities: During the product support step, the following activities must be practiced:

- Product on-site technical instructions and updates for safe and effective use of the product or process
- Prepare, distribute and encourage use of instruction manuals for the assembly, operation, and maintenance of the product or process
- Design, produce, and distribute "consumables" used in the product or process
- Design and introduce timely but minor improvements in materials, components, systems, and software
- Produce and distribute spare parts
- Set up and provide warranty services
- Introduce new applications developed for the product or process
- Identify new product spin-offs or major product design changes that would require going back into earlier stage to be re-identified as a new product
- Disseminate alerts and undertake remedial action for unplanned product deficiencies or changing safety and environmental requirements

Technical Information: The production support step usually will result in knowledge about the optimal conditions, technologies, processes, and procedures to produce a competitive

2. MARKET

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2.1. Market Needs 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?

2.2. Market Study

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Definition: The process of identifying the price range at which a quantified market segment is willing to purchase the product and justifying why the target market will choose the product over the competition's.

Objective: The objective of the feasibility step is to identify who will buy the product, how many units will they buy, and how much they will pay.

Product: The product of this step is a market study that follows the marketing section of a standard business outline format.

Marketing Activities: The marketing activities common to this step are those necessary to demonstrate that there is market justification for the product.

During the market study step the following activities must be completed:

- Describe the market environment
- Identify economic and industry trends
- Quantify the size of the market
- Identify the market segments
- Analyze market segment size, growth rate, competitive environment
- Analyze business capabilities for market share, competitive position, product capabilities, resource capabilities

Marketing Information: The completion of the marketing study step usually will result in a thorough understanding of the market environment, the market structure, the market potential for the product, a realistic expectation of market share, and the capabilities of the business enterprise to compete.

Assessment:

Have you conducted a market study?

Have you identified factors critical to the market environment?

Have you identified the economic and industry trends?

Have you quantified the market size?

Have you identified the market segments?

Have you identified the size, growth rate and competition of the market segment?

Have you analyzed business capability for market share, competitive position, product capabilities, and resource capabilities?

2.3. Strategic Marketing

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Definition: The process of making specific decisions concerning the marketing approach that will be incorporated into the business plan.

Objective: The objective of the strategic marketing step is to narrow the marketing decisions to those that offer the highest opportunity to maximize profitability.

Product: The product of this step is a concise marketing component of the business plan that reflects the optimum strategic business options for the enterprise.

Marketing Activities: The marketing activities common to this step are those necessary to articulating a specific explanation on the marketing approach the enterprise will use.

During the strategic marketing plan step, the following activities must be completed:

- Define competitive advantage of enterprise and product
- Define marketing objectives (product, markets, image, service levels, business results, market share and sales levels)
- Select target markets
- Identify target market niche
- Select product features

- Select price
- Select distribution channels;
- Obtain direct market feedback
- Identify marketing team

Marketing Information: The completion of the marketing study step usually will result in a comprehensive explanation of what and to whom the enterprise will market the product as well as when, where, and how the product will be marketed.

Assessment:

Have you defined the competitive advantages of the enterprise and the product?
 Have you defined market objectives for the product, market image, service levels, market share, and sales levels?
 Have you selected target markets?
 Have you selected your market niche?
 Have you selected product features?
 Have you selected a price?

2.4. Market Validation

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Definition: The process of introducing the product to the market, assessing market approaches, and obtaining customer feedback.

Objective: The objective of the market validation step is to test the receptivity of the market to the product and to compare expectations of the business plan with the realities of the marketplace.

Product: The product of this step is a quantitative analysis of limited sales performance and a qualitative analysis of customer response.

Marketing Activities: The marketing activities common to this step are those necessary to obtain a quantitative and qualitative market response to the product.

During the strategic marketing plan step, the following activities must be completed:

- Conduct limited product sales
- Quantify the volume, rate, and demographics of sales
- Design and implement a customer survey
- Analyze customer feedback (price, design, function, packaging, delivery)
- Transmit design modifications to technicians

Marketing Information: Completion of the marketing validation step usually will result in a verification of the validity of the enterprise's marketing approach for the product and/or identification of recommended modifications.

Assessment:

Have you conducted limited product sales?
 Have you quantified the volume, rate, and demographics of sales?
 Have you designed and implemented a customer survey?
 Have you analyzed customer feedback (price, design, function, packaging, delivery)?
 Have you analyzed your competitor's response?

Have you incorporated marketing modifications into the market plan?
Have you transmitted design modifications to technicians?

2.5. Sales and Distribution

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Definition: The sales and distribution step is that period when the product is receiving some degree of market reception by distributors and buyers.

Objective: The objective of the sales and distribution step is to gain market share and increase profitability.

Product: The product of this step is a final confirmation or modification of one or more elements in the marketing approach.

Marketing Activities: The marketing activities common to this step are those necessary to expand product sales and assess product's market performance.

During the sales and distribution step, the following activities must be completed:

- Identify areas for market expansion
- Assess customer satisfaction
- Assess distributor satisfaction
- Refine product features

Marketing Information: Implementation of the sales and distribution step usually will result in a knowledge of the product's competitive position in the market, the demographics of the product, key customers for the product, perceived benefits of the product, communication mechanism for promoting the product, and the most effective and efficient sales channels.

Assessment:

Have you established product distribution and sales?
Have you identified areas for market expansion?
Have you assessed customer satisfaction?
Have you assessed distributor satisfaction?
Have you refined product features?

2.6. Market Diversification

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Definition: The market diversification step is that period when the product is modified to meet new market opportunities or when new products are developed to meet existing market demand.

Objective: The objective of the market diversification step is to address changing market conditions.

Product: The product of this step is a portfolio of competitive products and multiple markets for products that insulate the enterprise against economic downturns.

Marketing Activities: The marketing activities common to this step are those necessary to diversify the products and markets.

During the market diversification step, the following activities must be accomplished:

- Market environment scanning process
- Technology transfer and/or deployment processes
- Allocation of resources for continued improvement of existing products
- Allocation of resources for new product development

Marketing Information: Implementation of the market diversification step usually will result in knowledge of emerging industries, emerging products, emerging technologies, sources of technology, identification of new enterprise opportunities and threats, and resources for technical assistance in technology development and deployment.

Assessment:

Have you diversified your product line?

Do you have a market environment scanning process?

Do you have a technology transfer and/or deployment process?

Do you make resource allocations for continual improvement?

Do you make resource allocations for new product development?

3. BUSINESS

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3.1. 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 regime?

3.2. Economic Feasibility

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Definition: The economic feasibility step of business development is that period during which a break-even financial model of the business venture is developed based on all costs associated with taking the product from idea to market and achieving sales sufficient to satisfy debt or investment requirements.

Objective: The objective of the economic feasibility step is to develop a financial model of the business venture.

Product: The product of this step is a complete integration of the technical product information and the market study into one or more break-even financial models.

Business Activities: The business activities common to this step are those necessary to develop a conceptual plan for a business venture based upon one or more financial scenarios.

During the economic feasibility step, the following activities must be completed.

Develop a financial analysis that identifies break-even scenarios based upon unit prices, volume of sales, and costs · Determine whether the business opportunity presents sufficient profit margins to justify a business venture · Assess the merits of licensing the opportunity compared to venturing

Business Information: Completion of the economic feasibility step usually will result in a go/no-go decision concerning the business venture, and if the decision is positive, identification of sources and uses of seed capital for the development phase.

Assessment:

Does the venture demonstrate a positive economic feasibility?

Have you developed a break-even financial analysis for the venture?

Does the venture offer financial returns that justify investment?

Have you compared the merits of licensing?

3.3. Strategic Business Plan

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Definition: The process of making critical decisions concerning financing options, organizational structure, marketing approaches, and strategic partnerships are matched with the aspirations of the founders and the capabilities of the organization.

Objective: The objective of the strategic planning step is to identify and prioritize the business options, which optimize the opportunity for success.

Product: The product of this step is a concise business plan that reflects the optimum strategic business options for the enterprise.

Business Activities: The business activities common to this step are those necessary to develop a formal business plan.

During the strategic planning stage at least the following activities must be completed:

- Finalization of intellectual property requirements
- Finalize business organization structure
- Select a board of directors (or advisory team)
- Finalize agreements on any concurrent break-through technology requirements critical to commercialization
- Develop a formal financial plan that includes the strategy and timing of present and future funding rounds
- Develop a detailed business plan for the product development stage including objectives, schedules, milestones and allocations of the required financial and human resources
- Ensure that the management team has critical experience and expertise in technology/product/market and business development
- Form a cohesive commercialization team (design, manufacturing, marketing, management)

Business Information: Completion of the strategic planning step usually will result in a formal business plan, finalization of enterprise formation (or corporate commitment for implementation), finalization of intellectual property requirements, acquisition of pre-venture capital funding, and finalization product development agreements.

Assessment:

Have you developed a strategic business plan?

Have you finalized the intellectual property requirements?

Have you finalized the business organizational structure?

Have you selected a board of directors (or advisory team)?

Have you finalized agreements on any concurrent break-through?

Have you developed a formal financial plan that includes the strategy and timing of present and future funding rounds?

Have you developed a detailed business plan for product development including objectives, schedules, milestones and allocations of the required financial and human resources?

Can you ensure that management has critical experience and expertise in technology/product/market and business development?

Have you formed a cohesive commercialization team (design, manufacturing, marketing, management)?

3.4. Business Start-Up

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Definition: The business start-up step of business development is that period during which business functions (management, production, financing, legal, marketing, and human relations) are initiated by key personnel.

Objective: The objective of the business start-up step is to introduce the enterprise to the market within the parameters identified in the business plan.

Product: The product of this step is an enterprise capable of producing a product that meets technical and customer specifications, satisfies customer expectations, and demonstrates a potential profit.

Business Activities: The business activities common to this step are those necessary to introduce the product to the market, establish a foundation for sound business practices, and implement a growth strategy.

During the business start-up step, the following activities must be completed:

- Establish hiring criteria
- Hire and train core personnel
- Execute limited contracts
- Arrange for next stage financing
- Regularly convene board of director meetings
- Develop business policy and procedure manuals
- Establish control mechanisms for cash expenditures that correspond with the business plan
- Establish a dynamic process for strategic and tactical planning for the enterprise

Business Information: Completion of the business start-up step usually will result in knowledge gained from the establishment of business functions, introduction to the market, assessment of market response, and confirmation of profitability, identification of required technical, marketing and business modifications and refinements.

Assessment:

Have you initiated business activities?

Have you established hiring criteria?

Have you hired and trained core personnel?

Have you executed contracts?

Have you arranged for the next stage of financing?

Do you convene regular board of director meetings?

Have you developed a business policy and procedure manual?

Have you established control mechanisms for cash expenditures that correspond with the business plan?

Have you established a dynamic process for strategic

3.5. Business Growth

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Definition: The business growth phase is that period during which business functions (management, production, financing, marketing, and human relations) are fully staffed and operational.

Objective: The objective of the business growth phase is to operate a business enterprise which produces a profitable product for which there is increasing market demand.

Product: The product of this phase is a business enterprise that is perceived by the market as a preferred source for the product and/or service.

Business Activities: The business activities common to this phase are those necessary to establish a foundation of sound business practices, implement a growth strategy, and ensure profitability.

During the business growth step, the following activities must be completed:

- Obtain equipment and facilities
- Hire and train personnel
- Execute contracts
- Arrange for next stage financing
- Institutionalize management vision, mission, and policies
- Regularly convene board of director meetings
- Monitor industrial business trends and practices
- Identify opportunities and threats to enterprise profits
- Conduct strategic and tactical planning for the enterprise

Business Information: The business growth phase usually will result in knowledge of market receptivity to the enterprise, the price-value threshold of product, competitor response, emerging competition, and critical factors for enterprise operating success.

Assessment:

Are you engaged in full-scale production?

Have you arranged for full scale production financing?

Have you institutionalized a corporate vision, mission, and policy?

Do you have a process to monitor business trends and practice?

Can you identify opportunities and threats to enterprise profits?

3.6. Business Maturity

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Definition: The Business maturity step is that period during which the enterprise secures market position, optimizes investment opportunities, and explores product and market diversification.

Objective: The objective of the business maturity step is to optimize profit potential of the enterprise.

Product: The product of this activity is a business enterprise that is generating increasing profits through multiple revenue streams.

Business Activities: Activities common to business maturity are related to investment options and business decisions that ensure enhanced competitiveness.

During the business maturity phase, the following activities must be completed:

- Implement a company diagnostic process
- Provide continuing education and training programs
- Explore alternate management technologies
- Invest profits
- Monitor life cycles of product in enterprise portfolio
- Regularly convene board of director meetings
- Monitor industrial business trends and practices
- Identify opportunities and threats to enterprise profits
- Conduct strategic and tactical planning for the enterprise

Business Information: The business maturity step usually will result in knowledge of potential exit strategies, opportunities for business diversification, emerging industry changes, new market demands and expectations.

Assessment:

Are you optimizing the company's profit potential?

Have you implemented an internal company diagnostic process?

Do you provide continuing education and training opportunities?

Do you explore alternate management technologies?

Do you reinvest profits?

Do you monitor product life cycles in the enterprise portfolio?

Do you monitor opportunities and treats to enterprise profits?

Can you identify opportunities and threats to enterprise profits?

Do you conduct strategic and tactical planning for the enterprise?