## POWER4BIO Business Modelling Methodology

A business model describes how a company creates an offering, gets it to customers and generates profit from the transaction. The authors of the book entitled “Business Model Generation”, *Alex Osterwalder* and *Yves Pigneur* suggest that a complete description of a company’s business model can be broken down into **nine elements**, which nine business model building blocks can be captured in a single diagram called the ‘Business Model Canvas’.



* The modelling diagram sets the value proposition at the centre of the business model as the primary focus area. In other words, this is the **concept** of the bundle of benefits that a company offers customers.
* The **customer-related (external) building blocks** (customer segments, channels, customer relationships) can be found to the right of the value proposition. These elements ensure desirability of the concept and include all components related to the understanding and reaching people and companies who are motivated enough to buy and use the product/service in order to receive some sort of compelling benefit.
* The most important **internal business building blocks** (resources, activities, partners) are to the left of the value proposition. These elements ensure feasibility and enable the business to exist, including all of the operational components (vital ingredients, important processes and invaluable allies) that make the value propositions a reality.
* The **finance-related building blocks** (revenue streams, cost structure) can be found on the lower part of the diagram. These elements describe the financial viability and sustainability of the business.

**‘Business Model Canvas’ in the context of POWER4BIO**

‘Business Model Canvas’ is a strategic management template widely used for developing new or documenting existing business models. POWER4BIO Task 4.1 uses the Canvas methodology for **describing and characterising existing bio-based solutions** which are considered as good practice cases, focusing on the concept of small-scale biorefineries, as initiatives able to make use of available local resources with a relatively low initial investment. In order to perform this, the basic model has to be adapted to the objectives, which does not mean modifying the basic approach or any of the nine basic elements of ‘Business Model Canvas’ but defining questions and aspects for these elements, which **questions and aspects are specific to the bio-based solutions**, their deployment and replicability.

According to the nine elements of the ‘Business Model Canvas’, the following set of questions and aspects was compiled for the POWER4BIO Business Modelling Methodology to be used in T4.1 to characterize existing business models behind the technical solutions and the way they have been deployed in the good practice bio-based solutions described in WP3. (It has to be noted that if our modelling methodology is used later for developing new business models, these questions have to be partly rephrased to be used for analysing new ideas.)

* **Value Proposition** (the Concept: bundle of benefits that a company offers customers)
* What are the products and/or services that can create value for a specific Customer Segment in the sector relevant for the company?
* What value does the bio-based solution implemented by the company deliver to the customer?
* Which one of the customer’s problems can be solved by the bio-based solution, or what customer need is satisfied by the solution?
* Is your solution unique from current solutions? Is the Value proposition innovative or similar to existing market offer(s), but with added features and attributes? (Which are these features and attributes? Is the main idea/value different compared to competitors? If yes, how and why? (newness, performance, customization according to the needs of a specific customer segment, design, brand, price, cost reduction, risk reduction, accessibility, convenience/utility/usability etc.)
* **Key Partnerships** (the network of suppliers and partners that make the business model work)
* Some activities are outsourced and some resources are acquired outside the company. Who are the key partners needed to support the implementation of your business plan?
* raw material providers
* technical assistance services
* investment partners
* technology providers
* consultancy partners
* logistic partners
* R&D partner
* government, local authorities
* …
* Who are the partners having influence on the Key Resources?
* Are there any Key Activities performed by Key Partners? Who are these partners performing Key Activities?
* Do you have Key Partners related to the following?
* business development
* resources efficiency
* optimization of implementation
* acquisition of particular resources and activities
* marketing activities
* social acceptance (if relevant)
* reduction of risk and uncertainty (bank, insurance company, company dealing with internal risk assessment etc.)
* environmental and sustainability aspects
* (any other important aspect to mention?)
* What are the motivations for the partnerships?
* What type of partnership(s) have you already established or joined? (strategic alliances between non-competitors, strategic partnerships between competitors (for example, in the frame of a cluster organisation), joint ventures to develop new businesses, buyer-supplier relationships to assure reliable supplies etc.)
* **Key Activities** (activities related to delivering the Value Proposition to the customers; the most important things a company must do to make its business model work)
* What Key Activities does the Value Proposition require?
* Which are the most important activities related to the following processes:
* technology process (drying, cutting, preventing from rotting, soaking etc.)
* product development
* sales, distribution channels
* marketing, customer relationships
* financial management
* problem solving processes to tackle different kind of problems (technical, procurement, customer-related problems etc.)
* networking, platforms
* processes aiming improving of the solution in any term (technical efficiency, technical performance, product quality improvement, marketing efficiency, environmental performance etc.)
* collecting feedback from consumers
* **Key Resources** (the most important physical, financial, intellectual, or human assets required to make a business model work)
* What is most important to your business? What resources should be present in order to deliver the Value Proposition and compete in the market?
* financial assets (such as cash, lines of credit, stock option pool for hiring key employees)
* place, buildings, infrastructure and other physical assets (e.g. machinery, manufacturing facilities, vehicles)
* intellectual resources (e.g. patent, copyright, know-how, customer database)
* intangible assets
* human resources
* sales competence
* other
* What Key Resources are required by / involved in
* Value Proposition,
* Channels,
* Customer Relationships,
* Revenue Streams
* **Customer Relationships**

Customer Relationships serve to develop all experiences the customer has with the company and its product. Customer Relationships are based on an overall strategy established by the company for identifying and tracking its specific customer segments and the customers’ needs, and for meeting those needs. It can include general marketing strategy, product training, demonstrations, website support section, rewards program, customer service, monthly newsletter to keep customers informed etc.)

* How do you get your customers? How do you keep and grow them?
* How does the company interact with its consumers?
* Do you have a marketing strategy?
* From the customers’ point of view: How do customers find out about the company? How do they investigate whether to buy the product? How do they purchase the product? How are they managed after purchase?
* **Channels**

Distribution channels how a company reaches its Customer Segments to deliver its Value Proposition (raising awareness among customers about a company’s products and services, helping customers evaluate a company’s Value Proposition, allowing customers to purchase specific products and services, delivering products and services to customers, providing post-purchase customer support etc.): communication, distribution, sales, delivery channels between the business segments and where Value Propositions takes place, for example: website, newspapers, retail stores social media; personal face to face communication, personal referrals, in-person pitch meeting; mail orders, selling in supermarkets, online sale channels, brochures, online videos and partner channels as distributors or wholesalers working with affiliates to sell the products)

* How do you reach the customers? How and where is your bio-based solution sold or promoted?
* Do you think that the channel you use for selling and promoting your solution is effective enough? Why do you think that this channel is efficient?
* Through which channels do your potential further customer segments want to be reached?
* How are you reaching them now?
* Which channels work best and which are most cost-efficient?
* **Customer Segments**
* Who are your customers the Value Proposition can be delivered to? (For whom is the value described at ‘Value proposition’ is created?)
* Is there a group of special / especially important customers?
* What are the expectations of your customers related to the value described at ‘Value proposition’?
* Can you estimate the number of potential customers?
* Does the technology solution / business activity target one or multiple market segments? Which are the market segments targeted?
* How could you describe your market? (mass market, niche market, segmented, diversified, multi-sided platform, other?)
* Are you your own customer? (Do you utilize the by-products or wastes produced as input material to another activity of yours?) (Note: This is a special case if production and utilization of the bio-based material occurs within the activity of the same company.)
* **Cost Structure** (direct and indirect costs involved in the business model)
* CAPEX (capital expenditure) which was used to purchase major physical goods or services needed to start the business
* plant and equipment purchases
* building expansion and improvements
* hardware purchases, such as computers
* vehicles to transport goods
* intellectual property (e.g. patent, know-how, license fee)
* …
* OPEX (operating expenses, costs for a company to run its business operations on a daily basis) - What are the most important costs inherent to the good practice case? (7-8 biggest expenses – how much is spent, and how frequently)
* raw materials
* energy costs, other production cost
* rent
* utilities
* personnel costs
* logistical costs
* general, & administrative expenses
* sales, marketing
* customer support
* research & development
* license fees
* property taxes
* business travel
* …
* What are the key costs (direct, variable, indirect)?
* Which elements are the most expensive? Describe the cost of each of the above elements (Key Resources, Key Activities, etc.)
* Does any of the costs changes as sales go up and down?
* Does any of the costs changes seasonally, significantly affecting the cash flow?
* **Revenue Streams** (this part links the Value Proposition, Customer Segments and Channel elements)
* How much does each revenue stream contribute to overall revenues?
* **direct** revenues generated directly from your customer segments;
* **indirect** revenues that do not come directly from your customer segments, but from parties that have an interest in your customer segment and are therefore willing to provide a financial compensation for it, from the private sector (e.g. advertisers interested in the same customer segment) or the public sector (e.g. subsidies from development communities, national funds)
* Do you apply a special revenue model tailored to your business case?

**Direct revenues:**

* For what value is each customer segment really willing to pay? (What are your assumptions for this? Have you tested it?)
* For what do they currently pay? How are they currently paying? How would they prefer to pay?
* Does any of the revenues changes seasonally, significantly affecting the cash flow?

**Indirect revenues – financial instruments:**

* The following has to be described for each financial instrument:
* managing authority (ministry, development bank, region etc.)
* type of beneficiaries (rural, industrial, farmers, SMEs, etc.)
* type of funding (grant, (micro)lending, equity etc.)
* amount of grant
* percentage of coverage (for example: up to 70% of eligible costs; 70% of the initial capital required)
* benefits and bottlenecks
* types of funding required for a well-defined usage (for example: 200k Loan for the expansion of plant, buying new machinery)

**Indirect revenues other than financial instruments** (incentives and financing ensuring the competitiveness of innovative solutions):

* direct production (market) support
* investment support
* interest rate subsidies
* green financing (loans provided by state-owned financial institutions, refinanced credit programmes, guarantees for market loans, etc.)
* indirect production incentives (favourable tariffs, mandatory admixture ratios, tax advantages)
* …