IO_02| TRAINING PLAN

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The aim of this paper is to document the development of the training structure from O1 and further research into the ESCO market. The main objective is to improve the skill base of energy agents to enable them to redirect their businesses quickly in accordance to changes in market and environmental conditions.

FINDINGS FROM RESEARCH O1

As indicated in the report from O1 the document illustrated the main conclusions and findings detected in the study of training needs of the energy Market in the participating regions.

Each partner implemented a study in order to know the current situation of the market in their territories, the training offer for professionals of the energy sector (mainly related to ESCOs) and what training needs, not included in the current training offer, are detected or demanded by local stakeholders.

The key findings from the questionnaire were as follows;

- The number of men working in energy companies is in general higher than that of women. Most part of the respondents were representatives of local companies and in the 70% of the cases their educational level was high (University degree). This then decides the level at which any proposed training is pitched.
- The energy sector is quite diverse, from biomass to solar, thermal or wind power generation, energy efficiency in Buildings, hydroelectric, nuclear, etc.; this diversity is reflected in the training needs of respondents.
- Nearly half of professionals have less than 5 years of experience in the sector, which anticipates the interest in advanced training. This lack of experience might be connected with the **high proliferation of new small companies that offer energy services** in participating regions, mainly in Extremadura and Thessaly due to the increase of the demand, the higher efficiency of the technology and the low offer for employment from traditional companies due to the insecurity of the economic situation.

- 35 % of the professionals identified the training in business modeling very important for their companies and their career.
- A large majority of companies lack the knowledge in alternative methodologies to develop new products and services, which demonstrates a lack of training in these areas.
- There is a high demand from the sector, (70+% of respondents), for receiving training in the relevant areas.
- Energy companies have different training needs depending on the subsector and characteristics of the company but the interest in business modeling is a common demand
- The number of energy companies that know and apply innovative methodologies for the design of their business plan is quite low
- Only 20% of respondents have received some training in alternative methodologies for business plan designing
- Most of the respondents are very interested in receiving training on new tools for the design of business models
- Almost all respondents consider that training business models and the use of innovative methodologies for the review and design of dynamic business models should be included in training programs for the energy sector.

Further findings from desk research

Energy service contracting is a form of outsourcing. It will only be chosen where the expected reduction in the *production cost* of supplying energy services can more than offset the *transactions cost* of negotiating and managing the relationship with the energy service provider Energy Services encompass a range of activities, such as energy analysis and audits, energy management, project design and implementation, maintenance and operation, monitoring and evaluation of savings, property/facility management, energy and/or equipment supply, provision of service (space heating/cooling, lighting, etc.). Energy Service Companies (ESCOs) create the focus needed to implement economically sound energy efficiency ideas.

Bertoldi and Rezessy [2006] have characterized the EU ESCO market. Most ESCOs have been founded either by large companies or as subsidiaries of large companies (equipment

manufacturers, facility management companies, energy utilities). The objectives for these companies do not necessarily focus solely on exploiting the financial opportunity of energy savings; other factors also act as strong drivers for offering energy services, such as selling energy, financing sale of their equipment, retaining.

ESCOs are generally classified into the following four categories based on their composition and ownership:

- Independent ESCOs—ESCOs that are "independent" in the sense that they are not owned by an electric or gas utility, an equipment/control manufacturer or an energy supply company. Many "independent" ESCOs concentrate on a few geographic markets and/or target specific client market segments.
- Building equipment manufacturers—ESCOs owned by building equipment or controls manufacturers. Many of these ESCOs have an extensive network of branch offices that provides a national (and international) footprint, with sales forces and specialized national staff providing packages of EE, renewables and distributed generation "solutions" to client market segments.
- Utility companies—ESCOs owned by regulated or state-owned electric or gas utilities. Many utility-owned ESCOs currently concentrate on regional markets or focus on the service territories of their parent utilities.
- Other energy/engineering companies—ESCOs owned by international oil/gas companies, nonregulated energy suppliers or large engineering firms.

As there are diverse forms of ESCO this **multiplicity of approach** is viewed as a **positive** in terms of how flexible to community needs the 'model' (because there really is no such thing) can be and a **negative** because it mitigates against the standardisation, knowledge sharing on best practice and joined-up thinking on regulatory frameworks needed to underpin the type of **collective approach** which will move ESCOs from the micro-market to the macro.

What is missing before any community-based approach can be successful is:

- innovative financing models with low transaction costs;
- buy-in from local authorities with their huge building stocks;
- more separation of ownership and operation of assets;

- standardisation of networks and more investment in these;
- more guidance from the Government and stability to build confidence.

There is a consensus of opinion for **the need for an overhaul of the regulatory framework.** If there is anywhere where the dice are loaded against SMEs and new entrants to the market it has to be here: regulation is costly, complex and based around the needs of the Big 6 energy companies.

The development of the ESCO market cannot occur before there is regulatory review that reduces the barriers to entry for SMEs.

Provision of general training schemes must be developed, most training is delivered by Professional Bodies or consultancies (e.g. ESTA or EMA) and those tend to focus on Niche areas. Of those areas most are technical training or training in M&V.

ESCOs typically develop, implement and fund their projects on a turnkey basis by bundling the following services;

- IGAs (investment grade audit)
- Comprehensive engineering design
- Project financing
- Complete installation and commissioning
- Long-term performance guarantees
- Savings measurement & verification (IPMVP, international performance measurement and verification protocol)
- Ongoing equipment maintenance.

Services are more sweeping and financial models are more flexible. ESCOs today offer a broad range of retail energy services, including:

- Engineering feasibility studies, audits and IGAs
- Equipment acquisition and installation
- Load management
- Energy purchase negotiations
- Facility management and water management
- Risk management
- Automated meter reading
- Energy information management
- Training and awareness services
- Sustainability support and environmental compliance
- Measurement and verification of savings
- Guaranteed results

REVIEW OF TRAINING NEEDS

The overall consensus is that the development of the ESCO market cannot occur before there is regulatory review that reduces the barriers to entry for SMEs

Training needs are deficient in many areas, it is mainly lager consultancy organizations that provide training and most of that is around skills provision in the multiplicity of sectors from M&V CHP feasibility studies etc.

There is a multiplicity of training available in the sector. The ESCO descriptor should be treated as an umbrella term and as such covers many different aspects of the sector mainly around technical know-how training delivered either by sector bodies (accredited) or by consultancies using relevant experts as trainers.

Most training needs are based around the needs of the major energy suppliers.

Provision of general training schemes must be developed, most training is delivered in Europe by Professional Bodies or consultancies (e.g. ESTA or EMA in UK) and those tend to focus on Niche areas. Of those areas, most are technical training or training in M&V there appears to be limited sector training in business modelling.

The training needs identified from the research (below) shows a need in developing business competences over and above the technical skills already possessed. For this to occur potential training needs have to be met by generic training providers e.g. consultancies and training organizations.

Training is needed in financial modelling and access to finance as well as business modelling.

Training objectives

The key objective of the training as noted is to improve the energy agents skills in order to redirect their businesses quickly according to market requirements.

RECOMMENDATIONS OF AREAS FOR TRAINING PLAN

From the research and interviews conducted considering the implications of the generic target market the following is a list of areas that should be incorporated within the training plan:

- Entrepreneurial training
- Function of business plans
- Business modelling
- Tools for the review and design of Business models
- Best practices regarding successful business models in the energy sector in Europe
- Environmental analysis
- Motivational analysis of service providers
- Value chain analysis
- Market segmentation analysis and positioning
- Technologies and processes
- Potential customer needs analysis
- Competitive advantage and value proposition
- Economic viability
- Finance
- Risk analysis
- Marketing
- Operations management – supply, know-how, innovation service provision, Project management

If a broader view of the above findings is taken it can be seen that a majority of the topics above are incorporated within business modelling. The key to the content relies on the fact that an Energy Service Company or ESCO can mean different things to different areas and different conditions. Therefore the following points are relevant:

What do you want the ESCO to be and what do you want the ESCO to do?

- **ESCO's can range from being totally within the public sector, through a mix of public / private ownership, to a totally private company.**
- **They can be classed as a charitable, not-for-profit, or profit-making enterprise.**

So, depending on what the aims of the ESCO are and how this will be incorporated then:

There is an ESCO model out there that is suitable for the organization. The project though will move beyond the traditional modelling approach for the sector (see below) and utilise a more flexible approach.

Research on the motivation for ESCO development has shown that:

1. Energy-Contracting is a proven '**delivery mechanism**', but: Market volume behind expectations + energy policy goals
2. Empirical evidence: **ESCo market development often driven by client side**, e.g. by public institutions putting out calls for proposals for ESCos to bid for => **buyer-led approach**
3. These clients were enabled by '**Facilitators**', who served as **intermediaries** between ESCOs and their (potential) clients
4. However almost no mention of 'Facilitators' in **literature** or **outside Europe**
5. Policy and consultancy puts too little focus on **client perspective on ESP markets**

Any proposed base for business model development has to address the above points.

COMMONONLY USED BUSINESS MODELS IN THE SECTOR WHEN APPROACHING FINANCING

There are 3 commonly used business models in the sector, Shared savings, Guaranteed savings and "Chauffage."

Shared-savings EPC

The ESCO finances the total upfront capital cost of the project and is totally responsible for repaying the lender. The client pays the ESCO a percentage (or it can be a fixed amount) of its achieved savings from the project, large enough for the ESCO to repay the project investment to its lenders, cover M&V costs and any other associated costs. The energy-end user assumes no direct contractual obligation to repay the lender, only the ESCO has this obligation.

Guaranteed Savings EPC

In a guaranteed savings EPC, the client essentially applies for a loan, finances the project and makes periodic debt service payments to a financial institution. The ESCO bears no direct contractual obligation to repay the lender, only the energy end-user assumes this obligation. The ESCO's guarantee is not a guarantee of payment to the lender but rather a guarantee of savings performance to the energy end-user that is usually equal to its repayments to the lender.

Chauffage

"Chauffage" or integrated solutions generally refer to a greater value-added approach. The concept offers conditioned space at a specified price per energy unit to be consumed or per some measurable criteria (square footage, production unit, etc.) through a supply and demand contract offered by the ESCO. The ESCO manages all supply and demand efficiencies. This concept derives from a previous contractual French approach of energy services delivered by a private company to a public authority or to another private body (e.g., owner of aggregate properties) called "contrat d'exploitation de chauffage" leading to the wording "chauffage" to qualify this form of EPC. In the former French approach, the contract used to contain up to

three elements designated under P1, P2 and P3, corresponding to the following services:

P1: Energy supply cost

P2: Maintenance cost

P3: Total guarantee cost (replacement cost of the equipment at the end of its life).

Analysis of the above models

Shared savings

For about 10 years, shared savings was the only type of EPC offered by North American (U.S. and Canadian) ESCOs. This structure creates a lot more risk for the ESCO than guaranteed savings because the ESCO not only assumes the project performance risk but also assumes the energy end user credit risk. The shared-savings approach typically requires an equity investment (especially in IFC eligible countries), which in combination with the higher risk assumed by the ESCO carries a higher capital cost than the guaranteed savings structure.

The primary characteristics of shared savings can be summarized by the following:

The energy end-user and the ESCO share a predetermined percentage of the energy cost savings;

· ESCOs carry both the performance risk and the credit risk;

· Financing for energy end-users does not negatively impact their credit capacity and can be off balance sheet;

· The equipment is “owned” by the ESCO for the duration of the contract (ownership is usually transferred to the owner at contract end);

· Increased risks associated primarily with energy end-user repayment causes the cost of money to be higher. As the entire project payments are recognized as a service cost, they are fully deductible for tax purposes in many countries for the duration of the agreement.

The economic viability of shared savings rests on the price of energy. As long as energy prices stay the same or go up, the project will typically pay for itself.

Guaranteed Savings

In developed markets, energy end-users have been interested in the model where the ESCO provides a performance

guarantee to them, i.e., that the realized project savings will be able to cover all the related project costs, including debt service to the lender, M&V fees to the ESCO and any other incremental costs (maintenance, etc.) incurred by the project, over a certain period of time. If the achieved savings fall short of the ESCO guaranteed savings amount, the ESCO will reimburse the energy end-user for such shortfall. If the realized savings exceed the guaranteed savings amount, the ESCO may share a portion of the excess, with the amount depending on the risk taken and the extent of ongoing services provided by the ESCO.

The significant characteristics of guaranteed savings can be summarized by the following:

The amount of energy saved is guaranteed, as long as the operation remains similar to the period preceding the project implementation;

Value of energy saved is guaranteed to meet debt service obligations down to a stipulated floor price;

Owners carry the credit risk;

Risks to ESCOs are lower than with shared savings,

Less of the project investment goes to financing costs;

Tax exempt (MUSH) institutions in countries that provide for this tax provision can use their legal status to access lower interest rates (in the case of the U.S.).

Chauffage

“Chauffage” - an integrated supply/use efficiency solution.

In this type of financing agreement, the management firm guarantees that the facility owner's energy costs will be lower than they would have been without an energy performance contract. The ESCO assumes responsibility for paying the energy bills of the facility over the term of the agreement. The facility owner pays the ESCO a specified percentage of the previous energy costs (per energy unit consumed, per square footage, etc.) that would have been incurred, discounted from an agreed base year of energy costs (e.g., historical energy costs minus a discount of up to 15%). A chauffage contract is usually very extensive, often involving a thorough energy management plan, including retrofits and maintenance. It is generally considered appropriate only for large-scale energy

end-users whose facilities feature substantial potential savings (e.g., hospitals, universities and large office buildings).

The key aspects of this model are:

- From the payments received, the ESCO must recover all of its expenses for equipment and services as well as pay the energy bills.
- The ESCO's gross margin is derived from the difference between the payment it received from the customer and the reduced energy costs it pays to the utility.
- The ESCO must reduce actual energy costs significantly below what it charges. Its profit equals this gross margin minus the costs to design, install and maintain the retrofits.
- The facility owner is able to budget utility costs with absolute certainty throughout the term of the contract and is assured of a positive cash flow during the term. This cash flow would most likely be less than that in a shared-savings arrangement as the ESCO assumes more risk.
- As in a shared-savings contract, the facility owner would have little incentive to invest in savings without it.
- Separate energy use 'score' being kept. Hence, there is a tendency to opt for lower capital cost improvements.
- In practice, ESCOs sometimes focus only on supply-side efficiencies and refer to the contract as "chauffage." It may include some type of ownership of a part, or the totality, of HVAC systems by the ESCO. The contract typically provides for some means of making adjustments for energy prices on an annual basis.
- On a financing basis, financing is done through the ESCO whereby the financing institution takes the long-term contract with a strong client as the main collateral for the loan.

ANALYSIS

While shared savings remains the dominant model in Europe, in North America over 90% of the EPC agreements are currently structured for guaranteed savings with the owner typically accepting the debt through TPF (third party financing).

The guaranteed savings scheme is likely to function properly only in countries with an established banking structure, a high degree of familiarity with project financing and sufficient technical expertise within a banking sector that understands EE projects. The guaranteed savings concept is difficult to use in introducing the ESCO concept in developing markets because it requires energy end-users to assume investment repayment risks for unknown technologies. However, it fosters long-term growth of ESCOs and finance industries because it enables newly established ESCOs with no credit history and limited capital resources (unable to invest in their projects) to enter the market if they are willing to guarantee the savings to energy end-users who will secure the financing on their own.

The shared-savings concept is a good introductory model in developing markets because energy end users assume no financial risk, which overcomes the difficulty energy end-users in transitional economies have in satisfying banks' criteria for creditworthiness. Another reason is the fact that a new concept, such as EPC, is easier to establish in a country if the energy end-user does not have to incur debt, or can avoid incurring going through the political/legal procedures to do so. The shared-savings concept, however, relies heavily on ESCOs' borrowing capacities and this presents a serious difficulty for small and even big ESCOs which lack access to financial resources. After incurring debt on even a limited number of projects, an ESCO is apt to find it is too highly leveraged to obtain financing for the implementation of more projects. This is a key factor in hampering industry growth. It essentially forces the ESCOs to have to continually raise substantial amounts of equity to grow resulting in balance sheets that more resemble banks and leasing companies than what they are, service companies. The shared-savings concept therefore limits the long-term market growth and competitiveness of small ESCOs and leaves lots of "lost opportunities" in energy end-user facilities because of its high financing costs only allowing short payback measures to be implemented ("cream skimming").

The “chauffage” approach works well in countries where a lot of heating (or alternatively cooling) loads are present, as it is quite focused on internal supply side EE. It is often associated with transfer of obligations related to the operations and maintenance of a facility where energy savings are just one component of the full deal. The approach is often seen in Central and Eastern Europe in the context of municipal district heating plants.

Which model works best?

There are important questions to ask when selecting among these different financing approaches.

On whose balance sheet are the project assets?

Who is really at risk for project performance?

Is the financing project-specific?

Why should one care about the questions?

Off balance sheet financing preserves a customer’s access to capital and simplifies project approval by an organization.

With respect to risks, we have seen that in pay from saving, shared-savings and “chauffage” contracts, the ESCO takes the savings risks head-on.

In guaranteed savings, the customer guarantees to repay the debt obligation undertaken to build the project and the ESCO indemnifies the customer for taking this risk by giving a guarantee that the savings necessary to make the payment will be met.

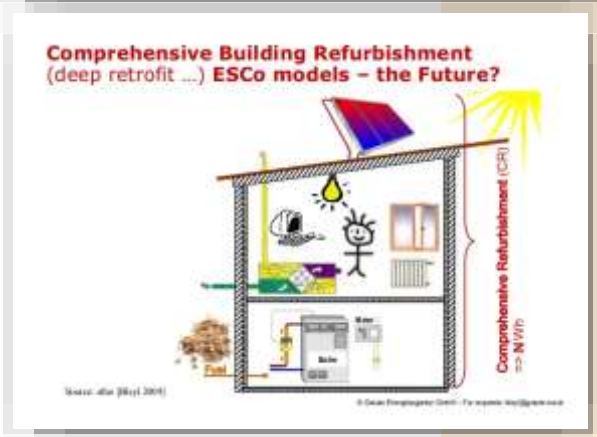
What is the difference if the ESCO takes the risk or the customer takes the risk and is indemnified?

Whether the financing is project-specific or not is a risk diversification issue. When financing is specific to a project, repayment of the financing may be predicated on the receipt of specific streams of revenue.

Most energy performance contracts are financed with project-specific financing and payment is predicated on project performance. If these projects fail to perform, even if related projects do perform, the ESCO may not be repaid. If financing is not project-specific, the cost of capital for a specific energy end-user is usually lower because of risk diversification.

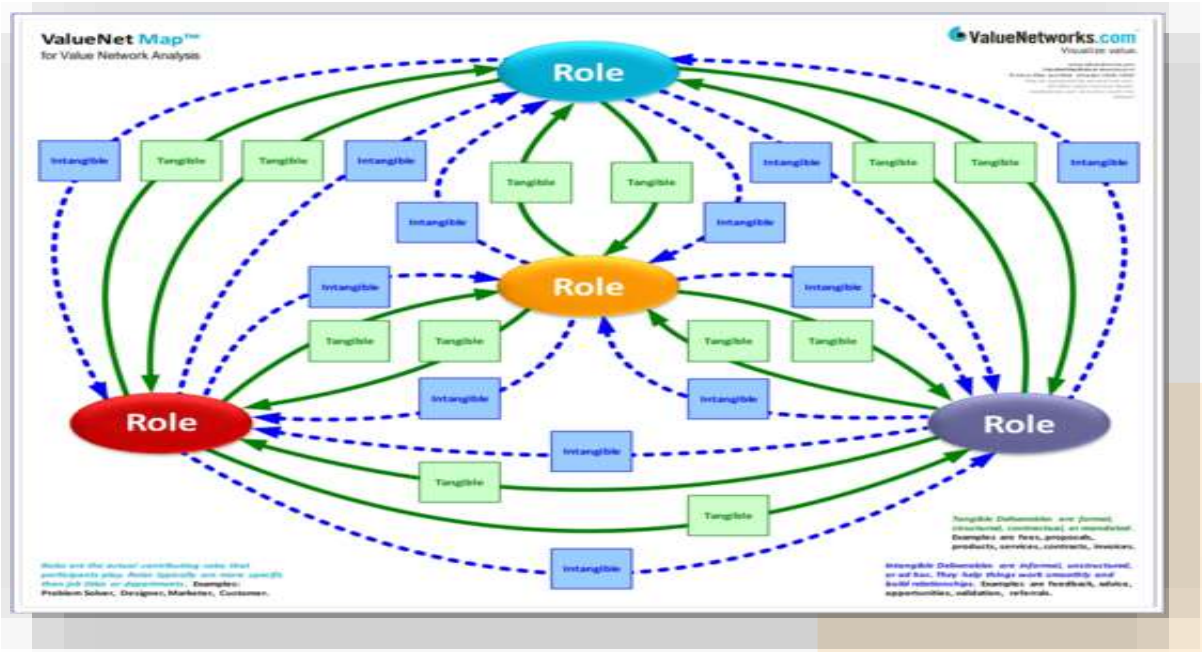
With the Identification of agile tools and technologies, therefore, a number of potential business modelling tools were reviewed:

1/ Competitive service provision



These models are very sector specific and do not form a reliable base to meet the training needs of the target market/learners.

2 / Value networks



Key points: value creation and exchange is at the core of understanding business models. There is a fundamental need to clearly articulate how you create value, and for whom. The other key point here is that value isn't just about money. You can also create and exchange intangible value.

3/ Henry Chesbrough, Open Innovation, Harvard Business School Press, 2006

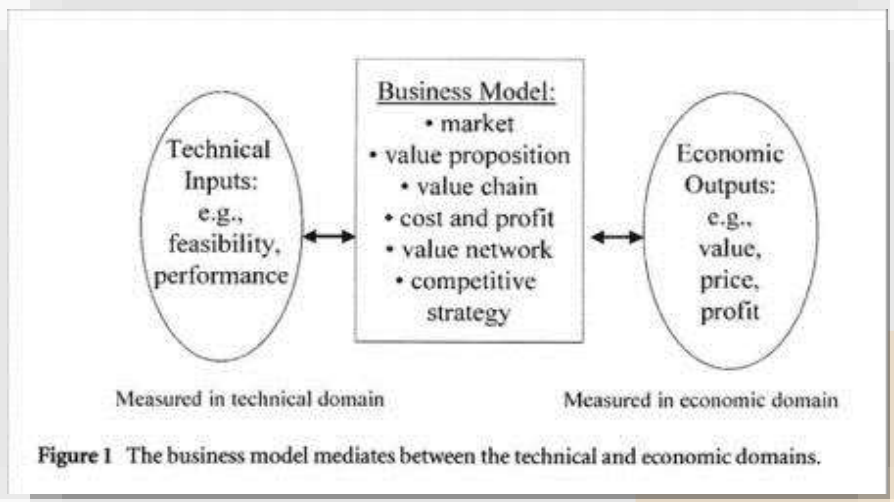
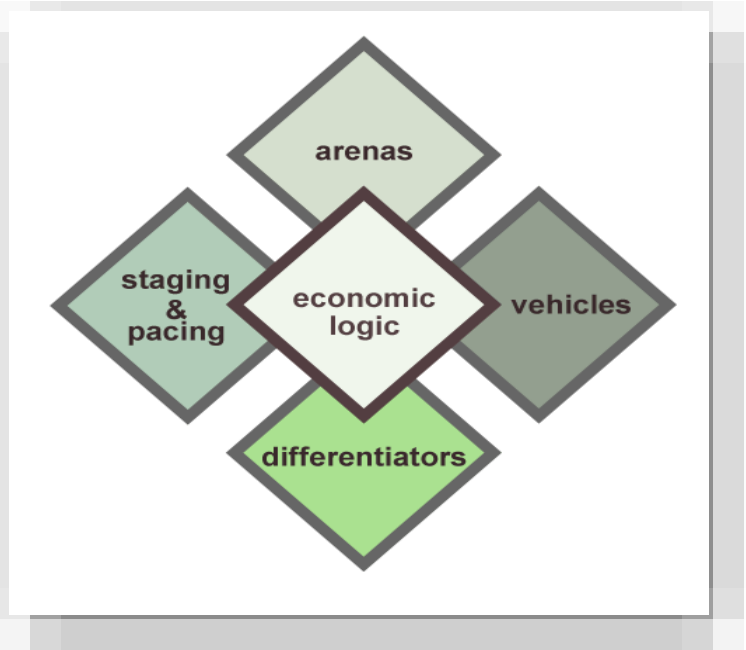


Figure 1 The business model mediates between the technical and economic domains.

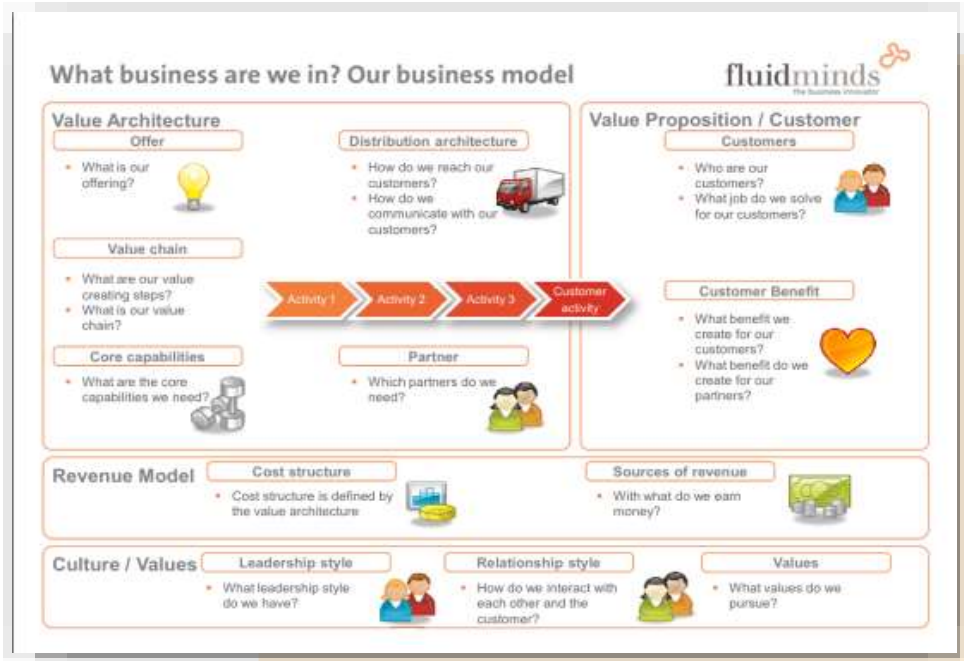
Key points: new innovations often require new business models. This is where the idea of business model innovation really started to gain traction. Chesbrough didn't just describe business models, he also discussed how changing a business model can be an innovation just by itself. Perhaps all new innovations require new business models and those models MUST be agile/flexible.

4/ Strategy Diamond: a strategy tool developed by Hambrick & Fredrickson (2001)



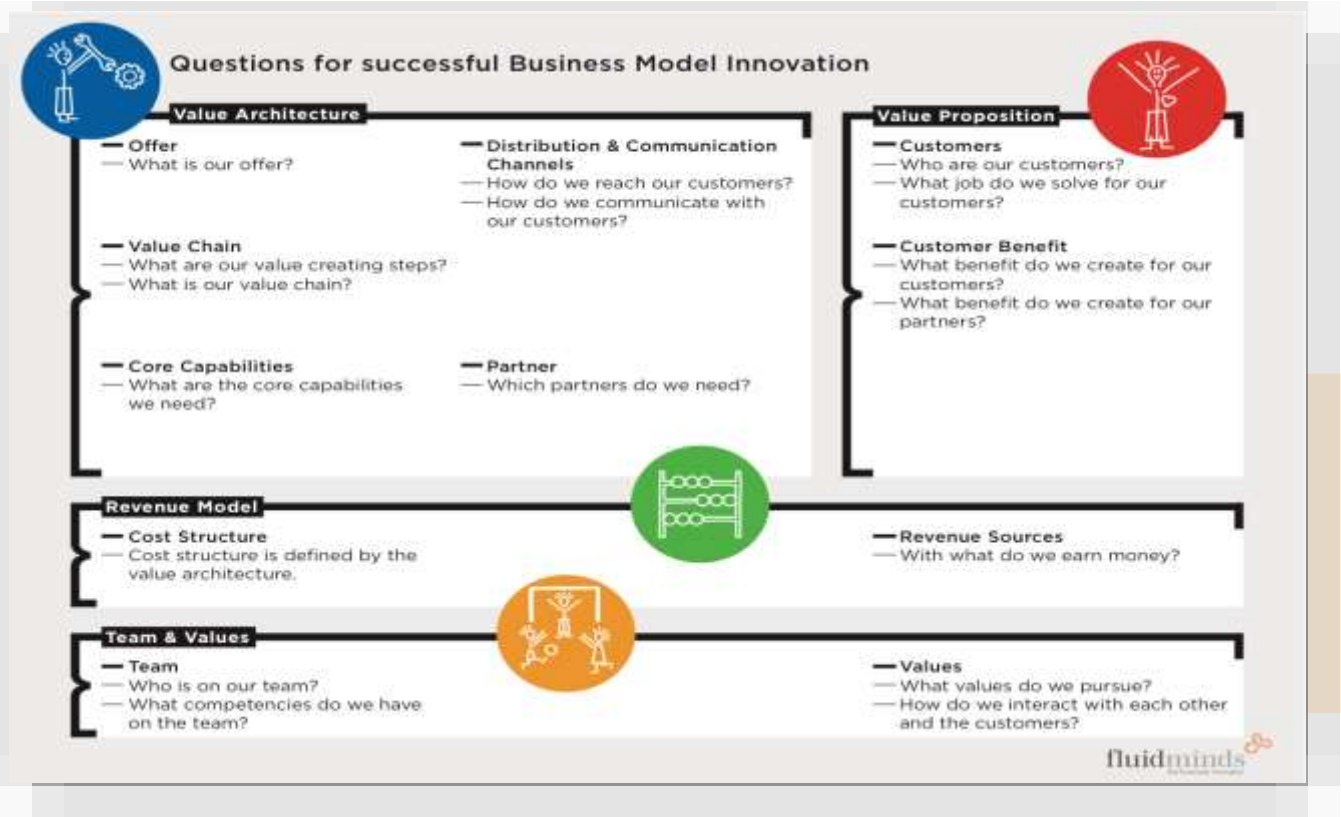
The strategy diamond provides executives and consultants a concise, coherent way to analyse, integrate, summarise, and communicate product, business, and corporate level strategies. The model covers strategy formulation -- that is, it helps answer questions about what the strategy is and what it will be in the future. Key points: the first key point here is that a good business model is integrated. All of the elements need to be consistent with and support the others. If you change one element, it's likely that you'll need to change all of them. Second, this model illustrates how closely linked strategy and business models are. When you design a business model, you can't do it without clearly articulating a strategy.

5/ Patrick Staehler: Business Models in the Digital Economy 2001



Key points: note the three bottom boxes: Leadership Style, Relationship Style and Values. Think about that in relation to integration. If you change the relationship style within your organisation, you'll likely need to change the rest of your business model as well. Furthermore, this business model innovation could be a source of competitive advantage. A very powerful point.

6/ The Fluid minds business modelling process



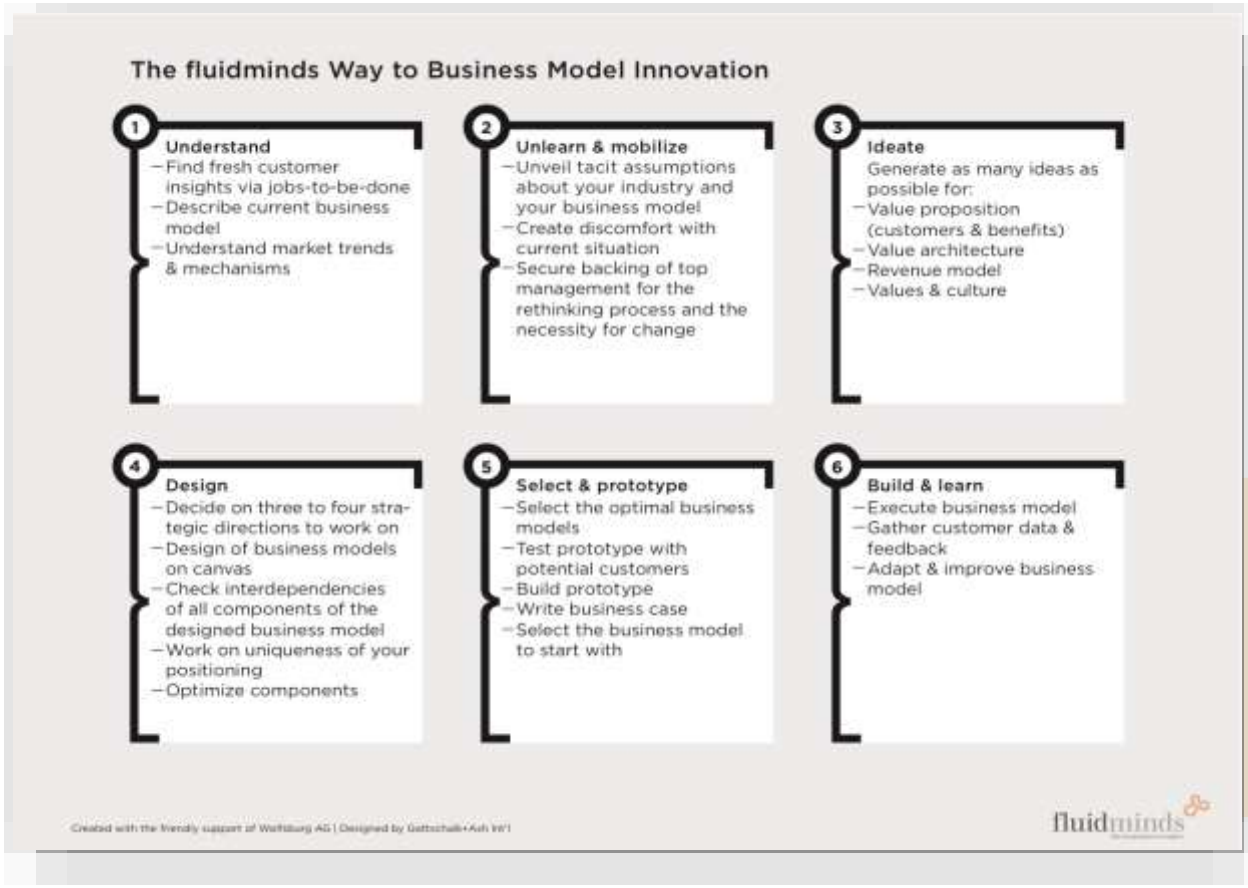
KEY POINTS – 'fluidminds' is a specialized consultancy for strategic and disruptive innovations. The above analysis demonstrates a generic approach to developing business models that is very adaptive. They state,

'The choice of the correct, customer-oriented Business Model is the key question in the Strategic process. With the choice of the Business Model, companies answer the following questions:

Which value do I create for customers?

How do I create this value?

How do I generate revenue?'



The main thrust of their approach is for organisations to recognise what they actually produce/do is not necessarily a good base from which to develop a business model. All organisations are in effect delivering a specific value to their customers, for example, airlines are specialists in 'transport economics' not necessarily customer experience. The same can be said of ESCOs, they are specialists in the Energy sector but not necessarily of delivering value to the customer. By building a business model whose foundations are based on the above 3 questions a business then can be agile to the changing competitive environment. This will serve as a strong base for developing the training plan and forms the foundation of further examples of business modelling.

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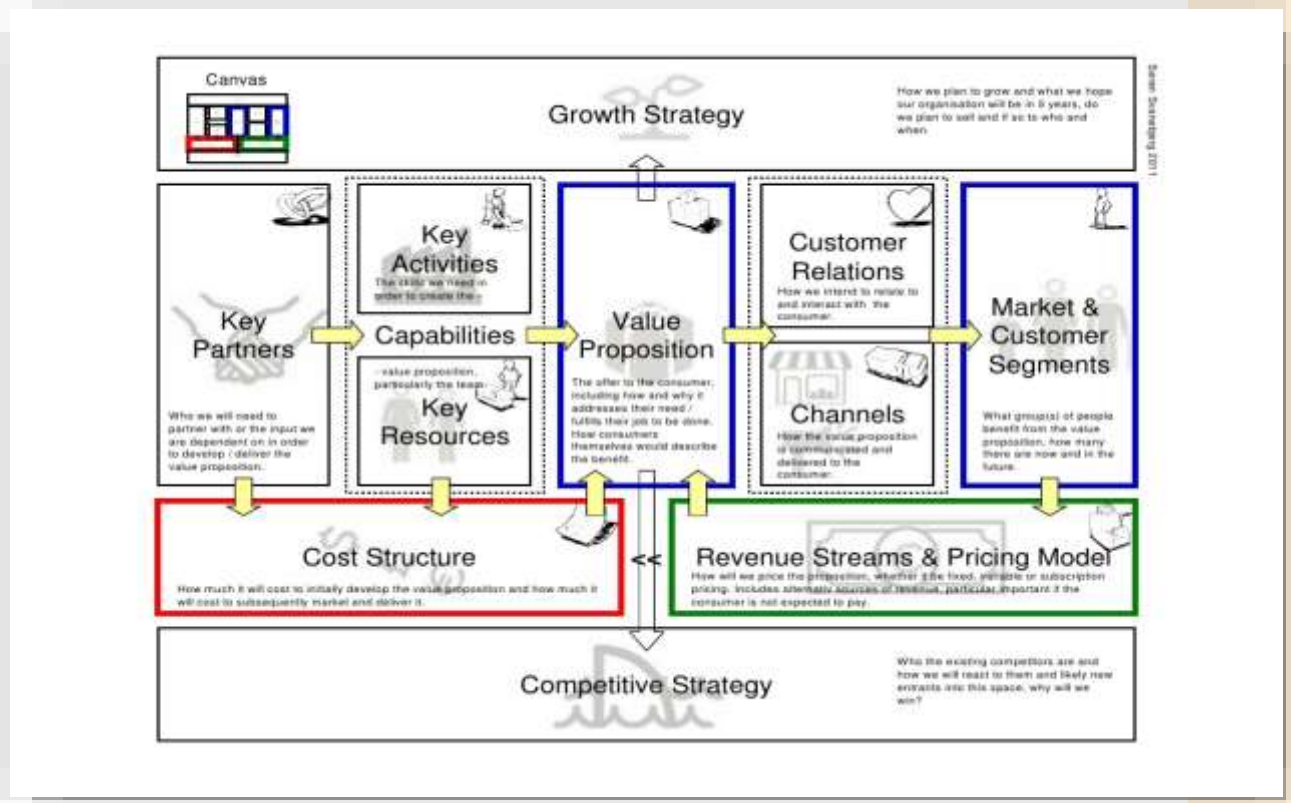
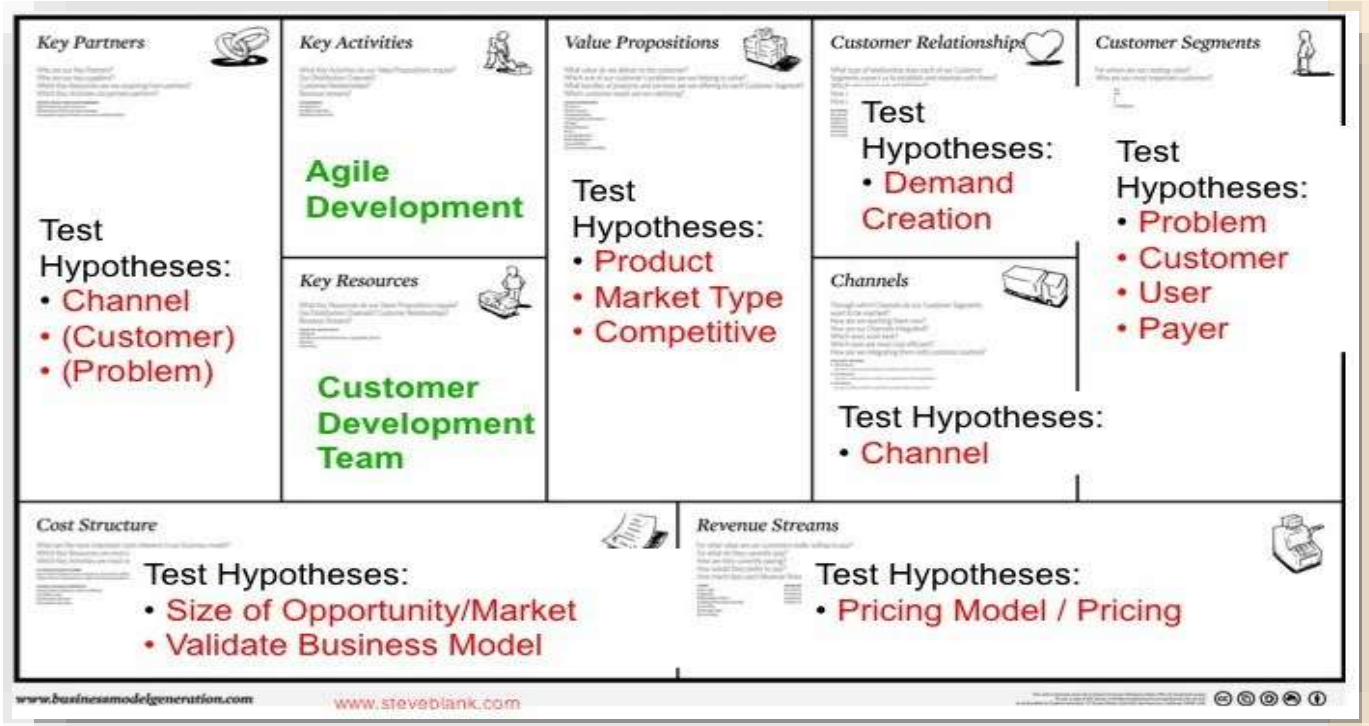
7/ The Business Canvas



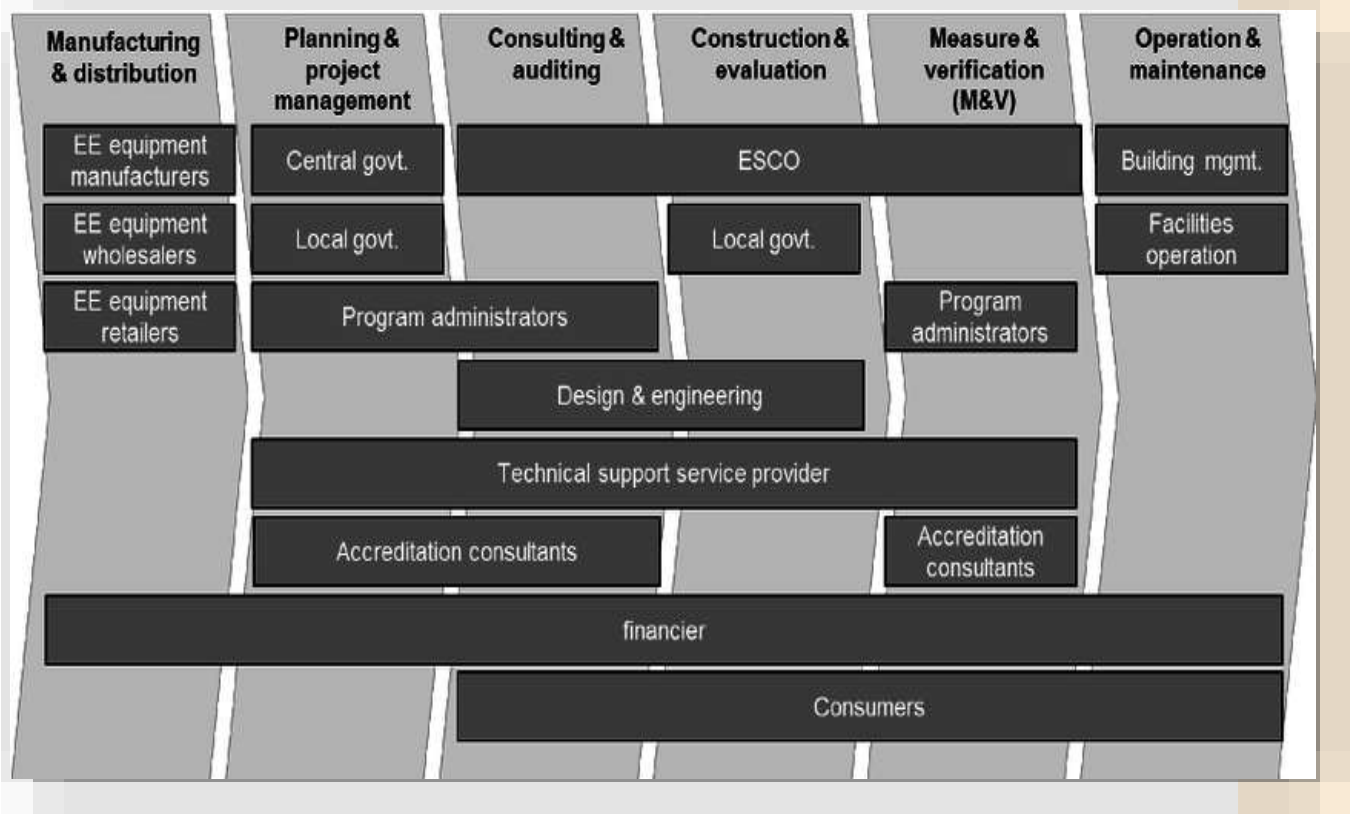
8/ Business Model Canvas: Alex Osterwalder (2010)



Key points: this is where the business model concept has started to go mainstream – Osterwalder has done a good job of promoting the idea, and making it genuinely useful. Based on Porters value chain it and Peter Drucker's theories of the firm (among other sources). The Business Model Canvas is a chart that maps the key things that a business needs to get right to be successful. This version of business models proves that it is a practical tool that you can use to figure out where your organisation should be heading. This should be the basis of the training programme.

BUSINESS MODEL CANVAS

9/ The traditional view of an ESCO value chain



The issue with this view is that customer value and the value proposition is not covered in sufficient depth. The focus of the Business Canvas allows for the rational of the business to be focused on this issue and allows for an agile approach to model development to changing conditions in the market and also broad enough to cover the disparate components of the sector

> **The Key point is 'that any time you start thinking about strategy, you're thinking about business models. So even frameworks that aren't being put forward as business models really are business models. Business models are important. They are an important tool that can be used to augment product and service innovations, to link innovation to strategy, to co-ordinate activities within an organization, and they can be a source of innovation as well. There are many models of business models out there.**
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> **(Sundelin 2014)**

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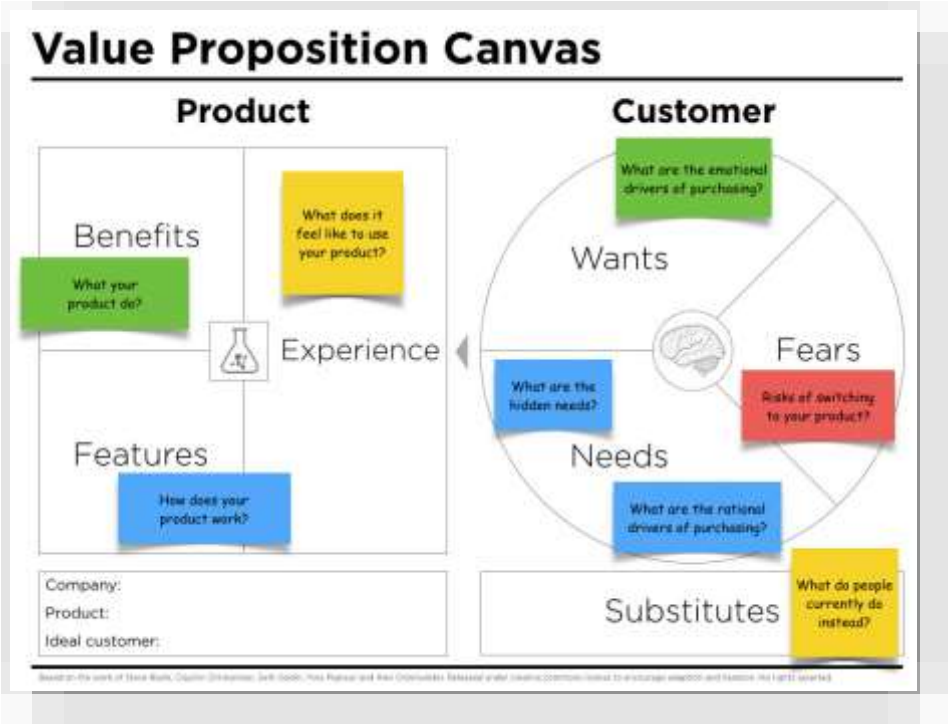
10/ Value proposition Canvas



The above template (P.J.Thompson, 2014) is based on the work of Blank, Osterwalder et al (2010) and can be used in conjunction with the Business canvas to develop the value proposition. As Thompson states , 'A "value proposition canvas" is a chart that maps the key things that make up your product and why people buy it. There are many different value proposition canvases. Some are proprietary, some are open source and some are creative commons. Any canvas that helps you understand your customer, your offer and how the two fit together will help you clarify your value proposition.' After all 'the value proposition sits at the pivot point of the entire business model'.

11/ Further models include

Long Range Planning: the special issue mentioned above makes a couple of important contributions. There is a new model of business models in the paper by David Teece (2005), but it is more of a model to use in description if you are trying to study these academically. It's not really one that you could use very easily within a firm for analysis.

Key points: the issue with the Teece model illustrates the point that Baden-Fuller and Morgan make about the different uses of the business model concept. Teece's model is designed solely for description/classification.

So you can run into approaches for business models that aren't as practical.

The second point is this: about 2/3 of businesses surveyed in one of the papers cited can't articulate what their business model really is. This is alarming. It also raises the point that every organisation has a business model, whether you have consciously thought about it or not. If you're trying to develop business strategy, it is essential to actually give this some thought.

Escape Velocity: the latest book by Geoffrey Moore . In it he includes a 9-point Market Strategy Framework, which includes elements like Target Customer, Compelling Reason to Buy, Partners and Allies, If you look at it, it's outlining a business model.

Key points: any time you start thinking about strategy, you're thinking about business models. So even frameworks that aren't being put forward as business models really are business models.

CONCLUSION FROM AVAILABLE RELEVANT BUSINESS MODELLING TECHNIQUES

Business models are important. They are an important tool that can be used to augment product and service innovations, to link innovation to strategy, to co-ordinate activities within an organisation, and they can be a source of innovation as well. There are many models of business models out there. An organization can use whichever makes the most sense and fit with the overall strategy. Flexibility in the model is the key requirement

Training Objectives

The key objective of the training as noted is to improve the energy agent's skills in order to redirect their businesses quickly according to market requirements. In general we have found that;

- ~ It is a broad market with many players each of whom will have different needs.
- ~ EPSCO environment is not the same across Europe.

Therefore a number of issues have arisen from the research outlined above that should be borne in mind when designing the training plan,

1/ The ESCO sector includes many different businesses and approaches from energy generation to M&V and a lot in between. Therefore to design a ubiquitous training schedule should focus on the basic needs of the sector (from the research) and this to be incorporated within a relevant teaching/learning vehicle.

2/ The business canvas is the ideal vehicle to address those needs.

3/ The strategy_should be to keep the training simple and general in approach.

4/ Keep language simple and not 'too academic'.

5/ focus should be on skill based development within the structure of business model development.

The overarching objectives

- To facilitate an understanding of the market in which ESCO is competing.
- To facilitate an understanding of the role of the business model for sustainable growth.
- To facilitate an understanding of the commonly used business models in the sector.
- To use the Business Model canvas as a vehicle to allow for the analysis of individual businesses through training modules allied to each component of the model.
- To facilitate an understanding of the use of agile methodologies in changing business models.

As a result the development of on-line training modules will be developed with the following principles;

- Use Business Model Canvas as a base
- Use identified training requirements mapped onto the Model
- Spin training modules from each section this allows for business model components to be understood, applied to each business and the overall Business model to emerge.
- Mass customised approach based on applied learning and problem solving.
- The order of modules is to allow progressive skills development and knowledge management

The modules

Module 1 - Entrepreneurial training including units on;

- idea generation and feasibility assessment
- commercialization and IP issues
- team building
- sources of finance
- market roll out

Module 2 – Business plans including units on

- Function of business plans
- Difference between business plans and business modelling
- Developing strategy
- Environmental analysis
- Risk analysis
- Marketing
- Customer needs analysis

Module 3- Business modelling including units on

- Tools for the review and design of Business models
- Best practices regarding successful business models in the energy sector in Europe
- Value chain analysis
- Operations management including supply, know-how, innovation service provision, Project management
- Motivational analysis of service providers
- Introducing the Business modelling canvas

Module 4 - the business model canvas.

- this module is the largest and breaks down the model into its 11 sections each to be delivered as a unit;

Details

- Each module will comprise of the following;
- Each module will be broken down into the relevant sub units.
- Total duration of the module: 40 hours comprised of 10 hours study and 30 hours self-study.
- the pro-forma developed will indicate
  - a summary of the module
  - module objectives
  - a description of the learning sub units
  - the duration of the module.
  - Each sub unit will take the learner through the key learning points with the use of case studies, readings and relevant tasks and related activities.
  - Each sub unit will also have a relevant reference and reading list.

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