Modelling repost, IT consulting firm. TDT4252 - Enterprise Modelling and Enterprise Architecture

Magnus L. Kirø

April 25, 2015

Abstract

This is a report that covers a modelling process and its model, based on a created case. The case is an IT consulting firm.

Contents

1 Case description **2**

2 Model and views **3**
- 2.1 Parent . . . 4
- 2.2 Strategy . . . 4
- 2.3 Activity . . . 5
- 2.4 Talent Development . . . 6
- 2.5 Structure . . . 6
- 2.6 Networking . . . 6
- 2.7 Recruiting . . . 7
- 2.8 Consulting . . . 7
- 2.9 Sales . . . 7

3 Perspectives explained **7**
- 3.1 Business Processes . . . 8
- 3.2 Actors and Information Flow . . . 8
- 3.3 Goals . . . 8
- 3.4 Motivations . . . 9
- 3.5 Concepts . . . 9
- 3.6 Organisation . . . 9
- 3.7 Summary . . . 9

4 Model and Process evaluation **10**

5 Relation to Enterprise Architecture(EA) **11**

6 Business Model **11**

7 Discussion and Reflection **12**

References **12**

1 Case description

The case describes an IT company, startup or existing, that has multiple offices in Europe, is expanding, and has some form of internal structure to assist the work the company does. For the case the name 'NewLigtning' has been used as a working name for the company.

The IT-company has seven offices in Europe. It is currently expanding its business and needs an overview of existing locations, culture, and main influence flow. This is dependent on the size of the different offices and how long the office has been in existence.

Further it is needed to clearly present the core of the company. This is the essential strategy; the why, how and what of the company. Modelling this will give an easy way of portraying the strategy to new consultants and potential clients.

For further expansion and employee satisfaction a development structure has to be described. This should be a view that presents the different levels one can achieve in the company, the reward at that level, and the general criteria for each level.

Motivation for this model is mostly to increase personal knowledge, but also to be able to share this knowledge easily in the future. A big part of knowledge sharing is the ability to understand the content and be able to boil it down to the essential message of the knowledge. In general the value of a company have to be understood and loved to be able to work in it an develop it further.

The main challenge will be to creatively create models that satisfactorily describes a big enough portion of the company to be able to give an overview. This is a difficult task, as there are multiple meaning of what is most important. Another aspect is to be able to reuse the model some time in the future. It should be so general that it could be used for a while, but at the same time be accurate enough to be useful.

The intended users of the model are new recruits to a company, and clients of the company. Mostly for educational purposes, and also to give an overview of the company to existing employees. That said, there is no reason others can and should not use the model to understand or develop businesses within, or outside, the IT industry.

The purpose of the model is to describe and clarify how an IT consulting firm can operate. What are the core beliefs and the core processes to generate value? This is described through different views. To understand how the different parts of the company fits together it is important to model the structure, activities and information flow. As well as the reward model for the employees.

In addition to describe the mechanisms of the company the model can also be used to educate employees of the structure. In general which parts interacts with which other parts, and also present the core of the strategy in a good manner.

As an added bonus the model serves the educational purpose that I, the modeller, will acquire knowledge about enterprise modelling and how a consulting firm is put together.

The create model addressed the case by creating a parent model which describes the connection and association of the different views. Then there are five sub models that describe the most important aspects of the company structure. Followed by three sub processes of one of the major views.

Designing the model will be done with Archi, an open source modelling tool. The tool will be used after sketching the views on paper. The paper sketching serves the purpose to remove distractions and increase the creativity space, and improve the creation process.

To ensure that the model meets its purpose some evaluation criteria will be suggested, as well as an evaluation of the modelling process. It would also be a good idea to use peer review for the evaluation of the model. The more input the better. The industry should ideally be involved also.

There are always alternative ways to create models. Many of them not as efficient, but some might be better. As an example of a different approach one could use google draw or libre office draw to create the models. This approach lacks the constraints that the Archi modelling tool gives for free. Although the constraints of the modelling tool can limit the relations between objects. Or there might not be an object in the modelling tool that represents the idea in a good manner.

2 Model and views

The purpose of the model as whole is to easily describe the connection of the different parts of the business. The most important thing for any model is to represent the intended concept in an understandable manner. See the first section for the case related purpose of the model.

Achi was used to create the models. Archi is an open source modelling tool. Archi describes themselves as: "A free and open source modelling tool to create ArchiMate models and sketches. Used by hundreds of Enterprise Architects throughout the world.". The tool has strengths and weaknesses, but is mostly satisfactory in terms of the outcome of the models. Archi has folders for all the components, and a list of views. The components are presented in views, and connected with relations. There are five categories

of modelling components; business, infrastructure, application, meta, and other.

The model was required to include at least five perspectives of an enterprise. Some of the suggested perspectives were: Business Processes, Actors, Organisation and resources, Applications, Technical Systems and Requirements, Goals or motivations, Information, and Concepts.

When modelling an enterprise there are quite a few important aspects to think about. These aspects can be describes as different perspectives, or rather different ways to look at the company and how it works. Some of the enterprise perspectives to be used, to a varying degree, is the following: Behavioral, Functional, Structural, Goal and rule-oriented, Object oriented, (Social) communication, Actor/role oriented, Topological.

For the created models the perspectives in GEMAL(General Enterprise Modeling and Activation Language) has been used for inspiration. The GEMAL perspectives are: Goal, Process, Organisation, Product, System, Person, Capability, Location. These perspectives are not directly modelled, but can be easily recognized in the models where they are present.

The split into the nine views was easy. After looking the case from different angles, and thinking about how to best communicate the core of the company the views became elementary. When the communication approach was defined, the different views more or less created themselves.

It is important to understand why, or why not, the model was created, what the model describes, rules and requirements the affects the model, and any processes that is described within the model.

2.1 Parent

Figure 1, the parent view describes the relation between different parts of the company. Or rather the important concepts of the company. Each employee is a stakeholder for the well being of the company. So this view is important for all employees to know about.

From this view the overview of the company is the important lesson to learn. In general, if a person do not know how the company essentially is connected that person cannot work efficiently in it.

2.2 Strategy

The strategy view, figure 2, shows the vision, values and important actions to achieve the goals of the company. The vision, values and mission is described by the why, how and what groups. The values are linked to the inner group. This represents that connection the more important category.

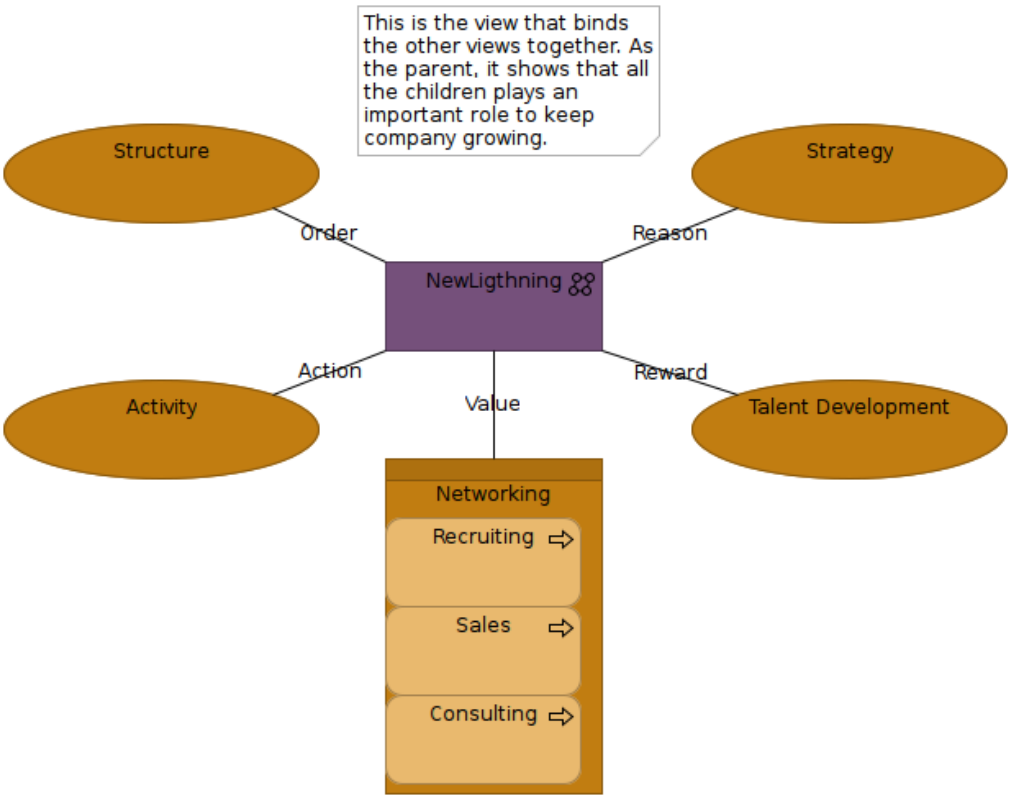

Figure 1: Parent view, showing how the other models are connected.

This view should be read from the inside out. Beginning with the why, follow with the how and finish with the what. The reason a company exists is more important than the what and how. How is more important than what. And that leaves the what to be the result of a good core with well established values around it. The what if left to describe common activities that are greatly improved by the two other categories, why and how.

2.3 Activity

The activity view, figure 3, displays the different activities the company has to do to create value. It shows how people are connected in the company, and which groups of people company has.

What this view also show is how people interact in the company. How the information flows, and how the different roles are dependent. This view can also be interpreted as the objects being roles. This limits the organisa-

tions flexibility and strengthens a strong separated structure. Therefore this view represents activities, which in turn can be performed by anyone in the company.

2.4 Talent Development

The talent development model, figure 4, describes the benefits. What people are getting, what is expected of them, and what level they are on.

Here the first stairs to the left are the consultant levels, or positions in the company. The middle stairs are the compensation structure, and the left stairs represent the description of the required skill and mentality of that level.

The size of the steps on the left stairs represent the experience and competence of the employee.

2.5 Structure

To know the company and the resources in it there has to be some structure to it. In figure 5, the structure view, the locations of the firm is displayed. It shows how the company as a whole with its international structure.

The stairs shows in what order the offices was created, and how the expansion developed. On the right is the cultural link between the different offices, this is based on the difference in culture and a bit geography. On the right we see the main influence flow. This is how the company as a whole is mostly influenced. Stockholm was the first office, and is the largest, along with the central management being there it is the strongest influencer in the company. This is important to know when considering expansion of the company, and internal communications, culture matters.

2.6 Networking

This is in essence the combination of business processes, also known as how the company makes money. Figure 6 shows how the networking part of the company is organised. As a consulting firm networking is the main activity of the company. Networking is the essence of what the business does.

In the figure we have the networking process, with operation as the activity that is closes to the centre of the company. This does not mean that operations is the most important to networking, rather the opposite. Networking is best performed at the edges of a network. This is done by the three sub processes of operations, consulting, sales and recruitment. Operations works as support for the three sub processes.

2.7 Recruiting

Recruiting, as a sub process of the networking view, is a business process that adds knowledge to the company. Knowledge is what the company sells, so it is important to get new knowledge and talent all the time.

Figure 7 shows the process of recruiting new employees. The recruiter or possible talents can start the process. It requires two parties to continue from the initial assessment to continue the process of employment. The process then describes the three next states to be acquired to be rewarded with a contract.

2.8 Consulting

Consulting is the product that the company sells to other companies. The essential part of consulting is to provide solutions to problems. This problem solving process is described in figure 8.

Seven steps are used to move from the initial state of a new engagement to the final state of a successful engagement. If the process fails at any step the process is moved back one step and continued from there. Typically is the evaluation step, if the plan is not good enough, a new plan is created.

The data objects represents the association of what has been created in the previous step, and what serves as input for the next step.

2.9 Sales

The final view is the Sales process. This business process in figure 9 describes how the company searches for and cares for clients to acquire new engagements.

First a client has to find the company, or the company has to find a new client. Then the connection between client and company is assessed to find out whether or not to commence in a relationship. When in a relationship the company will follow up the client to assure a good relationship and possibly prolong it. The follow up step is also there to locate new engagements. Engagements should naturally follow good relations.

3 Perspectives explained

The different views fit into different perspectives of modelling. Following are the touched perspectives and the views with explanation of its affiliation.

3.1 Business Processes

The business perspective represents the way a company makes money, or how it is profitable. The three sub processes of networking fits in to this perspective as they describe how the company increases and uses its knowledge, its money machine.

The Consulting view is business process because it show how the company consultants solves problems, which in turn fulfils the engagement aspect of the sales process.

The Sales view describes how the consultant will have something to do, and therefore create revenue. Although sales also creates knowledge, in the form of industry understanding and market movements. Knowledge is the key capability of the company, therefore more knowledge means more value.

The Recruiting view shows how the company intends to acquire new talent, and new knowledge. By having the best people the company can provide the best services to others. Therefore is recruiting a business process that generates value for the company.

3.2 Actors and Information Flow

The activity view serves the purpose of modelling the information flow, and the activity interaction. To assure good communication and a good flow of information it is important to know how this works. If every one knows where to ask the right questions the flow of information becomes easier, and more efficient.

The activity view also serves the purpose of explaining how to adapt to the day to day working environment. The working environment consists, roughly, of these five actor groups. As this view can be interpreted to display three different things(activities, roles, and departments) it is important to the understanding of actors and information flow of the company.

3.3 Goals

The goal perspective is represented through the strategy view. The strategy view shows which values and aspects to work towards and how to achieve them. In some ways this represents the goal of the company, in the sense that by working towards these goals the firm will be able to achieve most other challenges in its path.

It is important to elevate the fact that the strategy view represents the why, how and what is necessary to achieve measurable goals for the company.

3.4 Motivations

This perspective is important to describe why people should work for the company, and this is a major factor in what makes the company attractive to others. A good motivational aspect of a company also increases its standing in the industry.

The development model, talent development, describes how employees are rewarded, and what is the motivation on a personal level. The motivation on a personal level represents the total motivation in the company because the knowledge of each person aggregates to the common value of the company. This asset then consists of the opinions, moods, and ambitions of each employee thereby resulting in a combined motivation for the company.

3.5 Concepts

The Networking view describes the concept that is at the core of the company. It in many ways describe what type of company the firm is, and how it how it should prioritise its assets to increase its value.

The networking model, figure 6, has been inspired by Stabell and Fjelstad, 1998 [1]. They describe different types of companies and three types, where networking is one of them.

3.6 Organisation

Structure. Parent model.

The structure view presents the organisational perspective quite well. Here we also have the parent model. Structure wise the view describes the international presence of the company, which is important for people to know to understand the global knowledge network in the company, and company's position in the industry.

The parent model works on a more conceptual level of the strategy,a nd could have been placed under the Concepts perspective. Although the parent view shows how the different views are organised and should be considered an organisational aid.

3.7 Summary

The model as a whole describes the connection of different parts of the company, how the company operates, and the most central business processes. Considering the purpose, easy overview and better understanding, the model

as a whole serves it purpose. The different perspectives could be better represented, but in total its not too bad.

4 Model and Process evaluation

The model should be evaluated primarily by the usefulness it provides. That is if the model preforms as intended or not. Extending this the model should be easy to understand, and look good. Messy models will not be used in the future. Coverage should also be an evaluating factor. Does the model cover the intended area or concept to a satisfactory degree?

The modelling method can be described in four phases. Initial idea, concept or sketch creation, actual modelling, and evaluation. These four phases are all important, the actual modelling being the most important, and the sketch/concept the most difficult one.

Modelling process The initial idea phase is where the case, and overall modelling concept is created. The big lines of the work. This is an easy part, because there are few details and little logic.

The concept and sketch phase is the most difficult because it is here the logic is created. Business logic and the logic of how to present the wanted information in a good manner. This phase also has a tendency to overlap the modelling phase.

The modelling phase is where the modelling tool comes into play. It is here that all the problems with the initial concept design and sketching are revealed and corrected. The correcting part is the reason the concept creation and modelling phases overlap to some degree. The modelling phase will also unveil shortcomings in the modelling tool, which can result in recreating whole views.

Finally the evaluation phase summarises the work up to that point shortly by stating whether or not the process has worked so far. Continuing from the finished models the quality, coverage and compliance of the models should be assessed. Passing these three criteria, and previously mentioned important factors, the evaluation should result in a conclusion of whether the modelling phase has been good.

Following the description in this section we can evaluate the created model. The purpose is served, the coverage is adequate for the purpose, but the compliance to standards are lacking. The lack of compliance is mostly due to lack of knowledge specifics, but also because the modelling tool has placed restrictions on objects and relations. These restrictions has resulted in simplifications in some views, and not using intended relations between objects because of the lack of appropriate objects or relations.

Summarised evaluation; The model is OK, but it could also be a lot better. In the end it serves its purpose.

As for the process it has been quick when first started. The idea phase was easy and quickly followed by the concept phase. The concept phase was a bit difficult, but ultimately work out with some time and extra thought. It is not easy to find good ways to represent data in an intuitive manner. The modelling phase proved a bit more tricky because of the restrictions on the modelling tool. As for the evaluation process it is difficult to say anything about it due to lack of experience with modelling and evaluation of models. The models seem fine, but it is difficult to say what others would think.

Process in total; As expected, some problems along the way, but mostly easy going with a satisfying result.

5 Relation to Enterprise Architecture(EA)

– Discuss how your model can be used to support Enterprise Architecture. Lessons learned

The relation to enterprise architecture this model is inadequate. Technology and changes are not thoroughly addressed. This is because of the scope of the case. The case is limiting, and therefore the model is limited. On the other can this model can be expanded to contain missing parts of an EA approach.

If we only consider how the created model can be used to assist in EA the model is not bad. But it could be improved greatly. The fact that the created model is based on a company as a case it already has a lot of EA elements, such as information flow, motivation, strategy, and structure.

Through the modelling elements of EA and Enterprise modelling has been learned, and improvements to conceptualisation and modelling abilities has acquired. Key modelling pointers are to keep it simple, use what is available, and use comments. Relations are not always easy to describe and there are a lot of relations a tool is not adequate to present. Also learned: to use Archi.

6 Business Model

To describe a model in a business relation is important. The essence of a business model is to be able to clearly present the value the model brings to the table. If the model has no value it can not be described as a business model.

The created model is based on a case that is intended to be a business.

This greatly influences the model to become a business model. By looking at the different applications and potential use cases for the model it can clearly be categorised as a business model. Most important from the created model is the strategy and business processes(the processes to generate revenue).

For use cases in business the created model is adequate to describe the strategy and structure of the case company. It also describes the flow of information within the company and the development system. The model is constructed to be used in these cases. Additionally the parent model, showing how the other models are connected, is useful in a business relation, for presenting the connection of strategic parts of the company. The easier it is for people to understand how the system in a company works, the better.

7 Discussion and Reflection

The process as a whole has resulted in the inevitable last minute rush, the result is according. Although the result is adequate considering the time spent. The knowledge gained is substantial, and the experience in modelling is much better than before.

As for the subject, it is important and useful. Although might be boring most of the time. The task should also be more rigorously structured. Different chunks with defined deliveries and deadlines. This forces participants to deliver smaller parts more often, take inspiration from agile.

For possible evaluation methods on should prefer peer review. This is the standard evaluation method for science. But this method is rather slow. Solutions such as an expert panel should be explored. That is more efficient, and might give better results. Although this will not give a good insight into the understandability of the model. Ten people might understand the model just fine, while the one evaluating it might not, here we have a good model and a bad evaluator. The opposite might also be the case.

The model has its good and bad sides. Use cases described in the previous section are a good example of how the model is versatile, and good. But the quality of the model is unknown, which is bad. In total the model is sufficient for its purpose, to better understand a potential structure and inner workings of a company.

For the report there are a few keywords to be used; fast and concrete. There are no unnecessary content in the report, or at least that is the intention. Most requirements are covered, but most of them could be elaborated a lot more. All in all the work is sound, but not perfect. The working method has been based on the thoroughly tested 'just get it done' method, where perfection is set aside and getting results are in focus.

References

[1] Configuring Value for Competitive Advantage: On Chains, Shops And Networks. CHARLES B. STABELL* and ØYSTEIN D. FJELDSTAD, Norwegian School of Management, Sandvika, Norway. Strategic Management Journal, Vol. 19, 413–437 (1998)

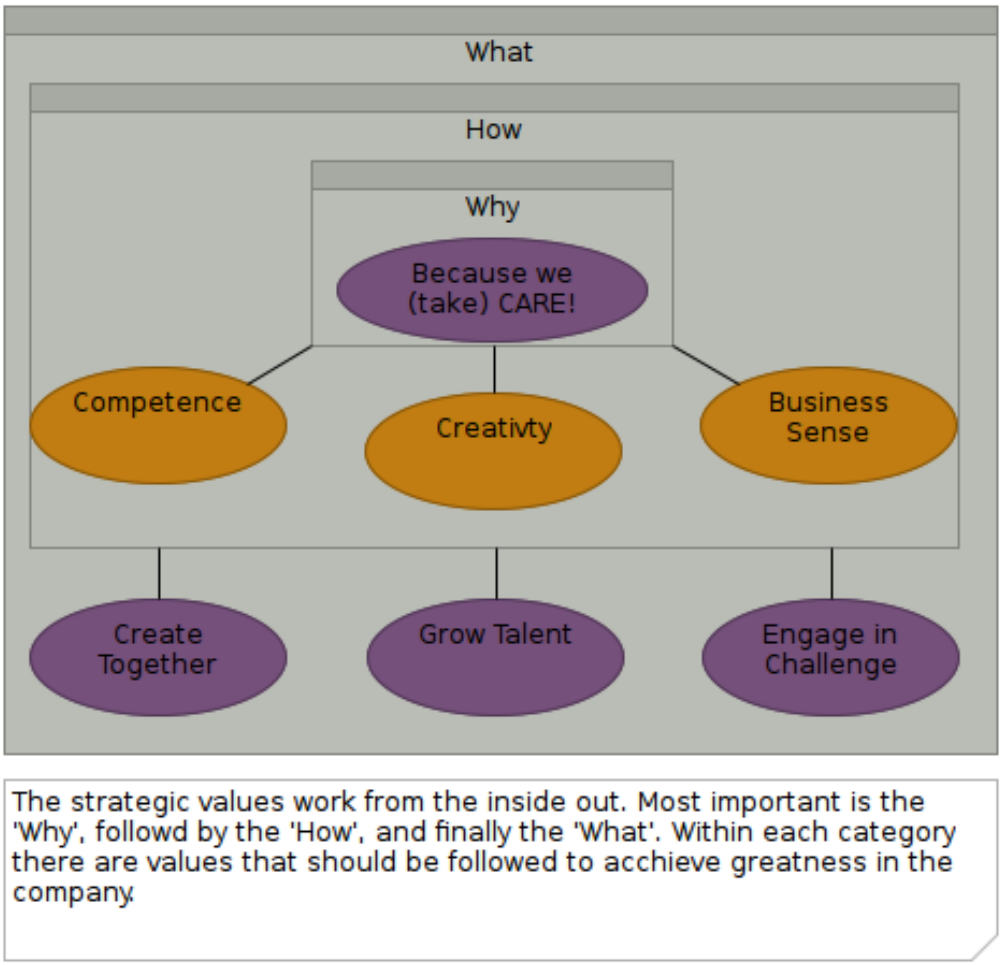

Figure 2: Strategy

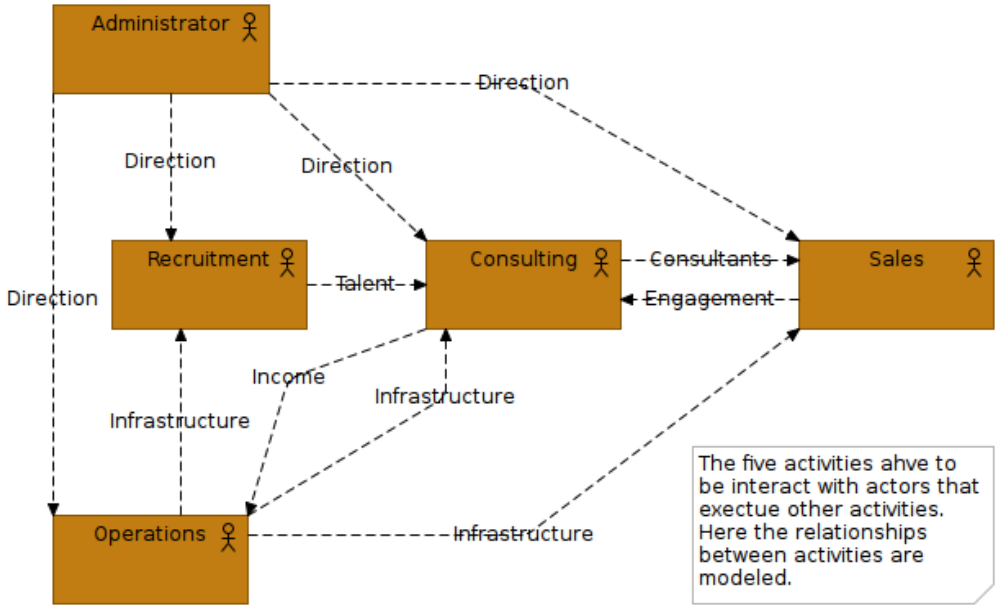

Figure 3: Activity

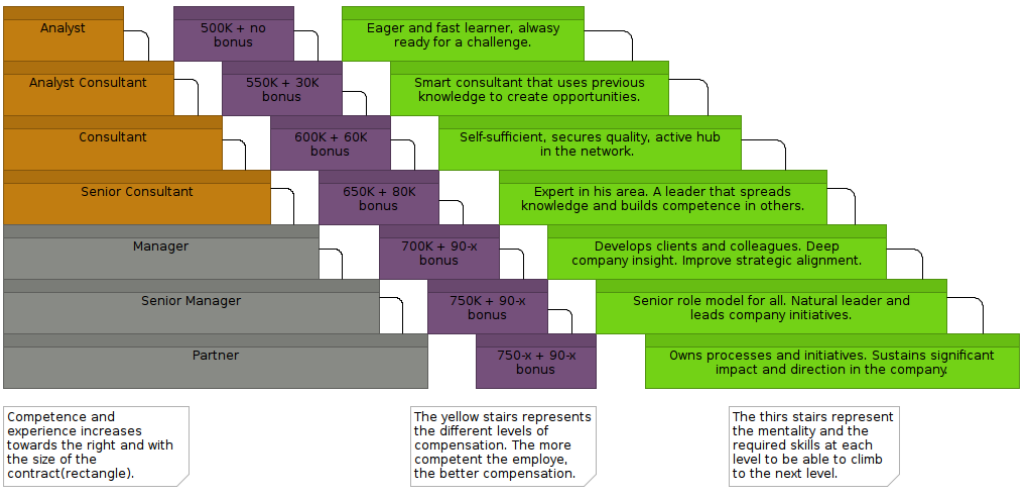

Figure 4: Talent Development

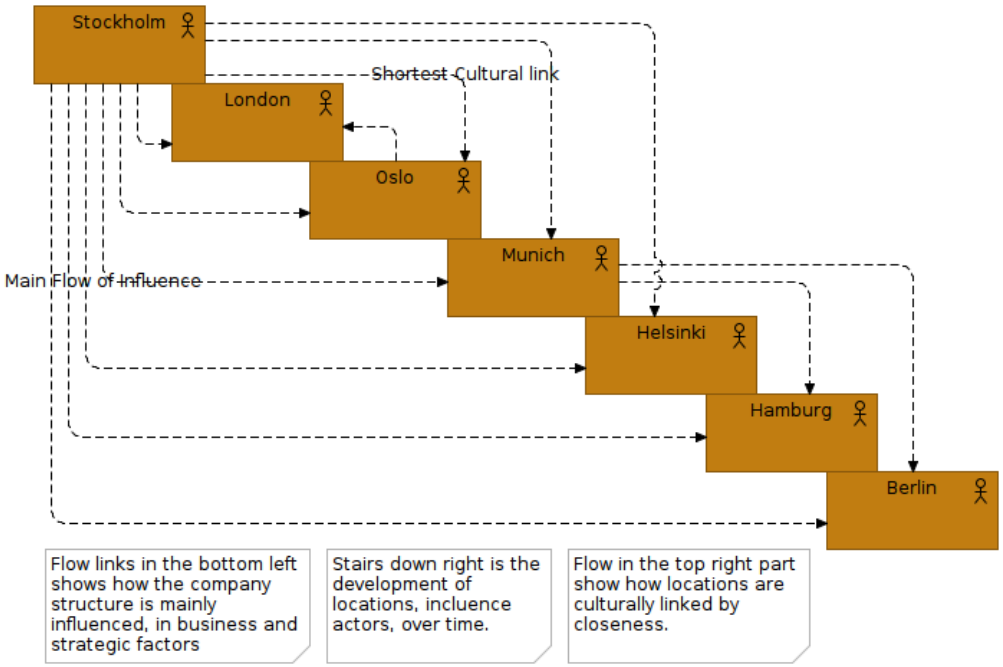

Figure 5: Structure

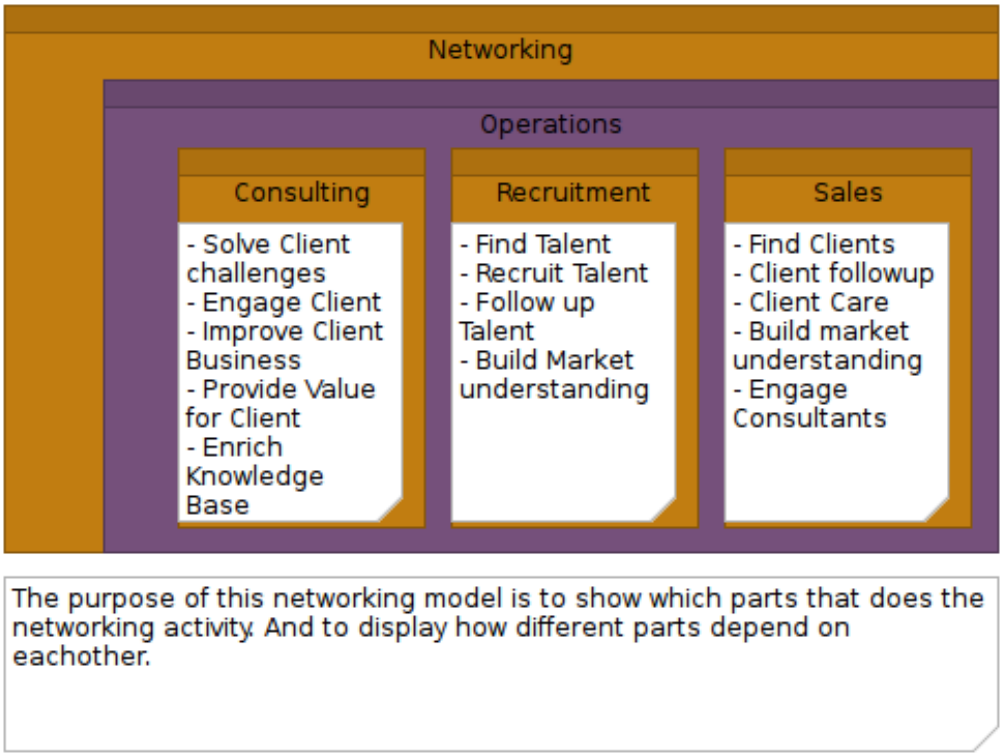

Figure 6: Networking

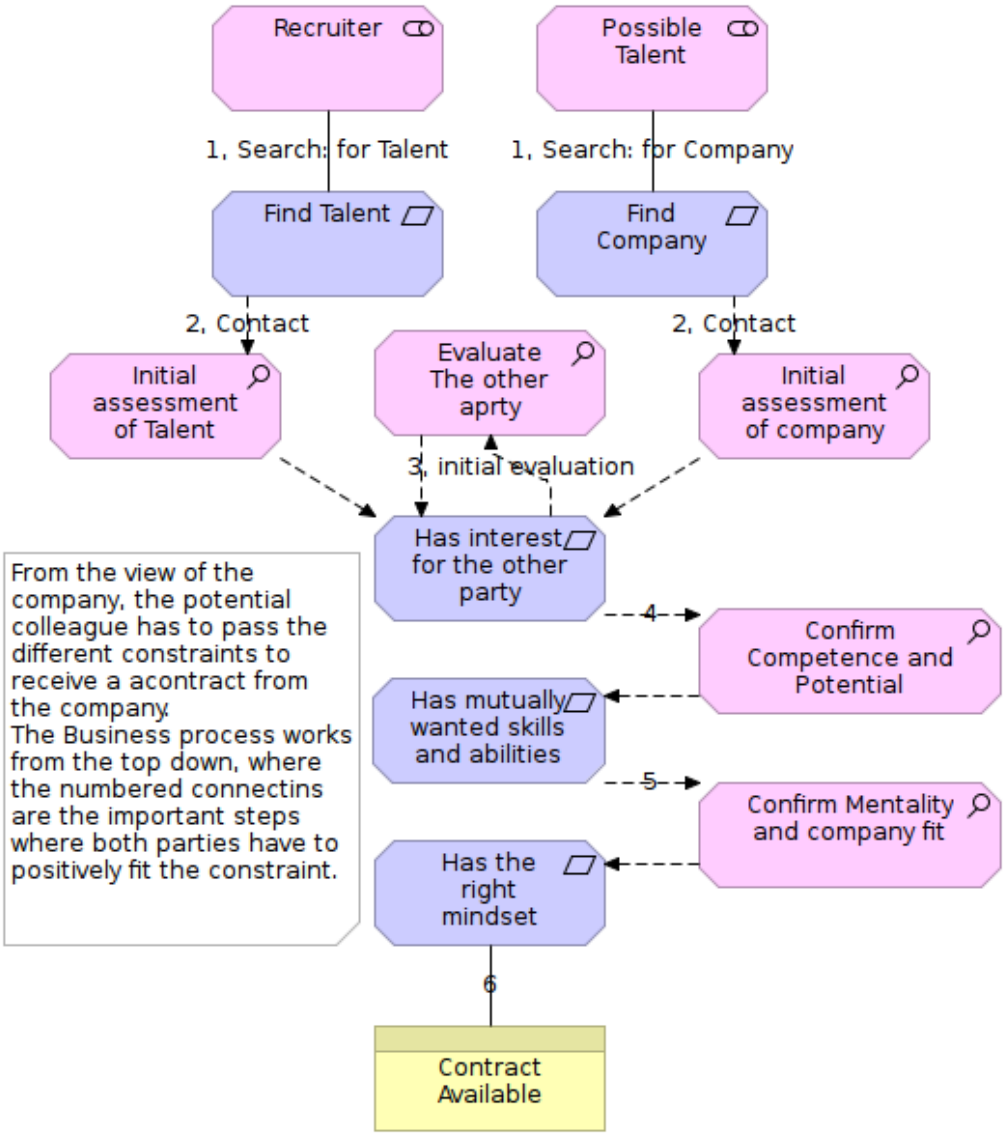

Figure 7: Recruitment

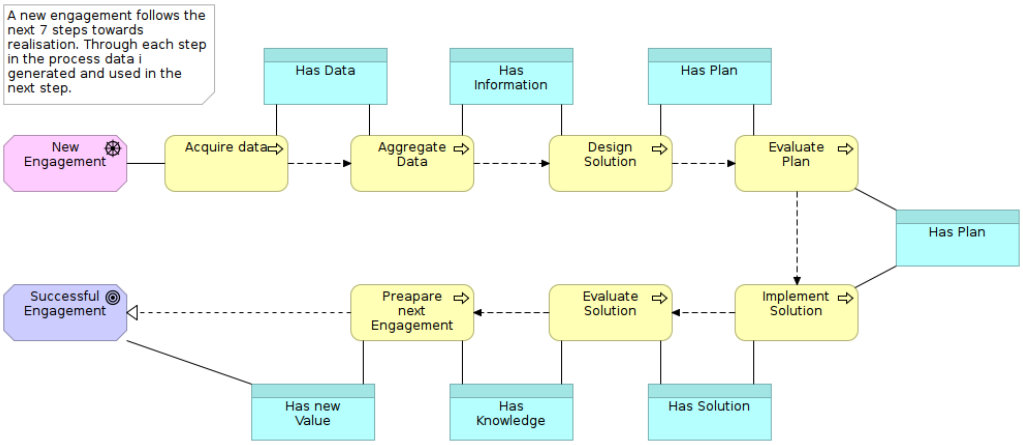

Figure 8: Consulting

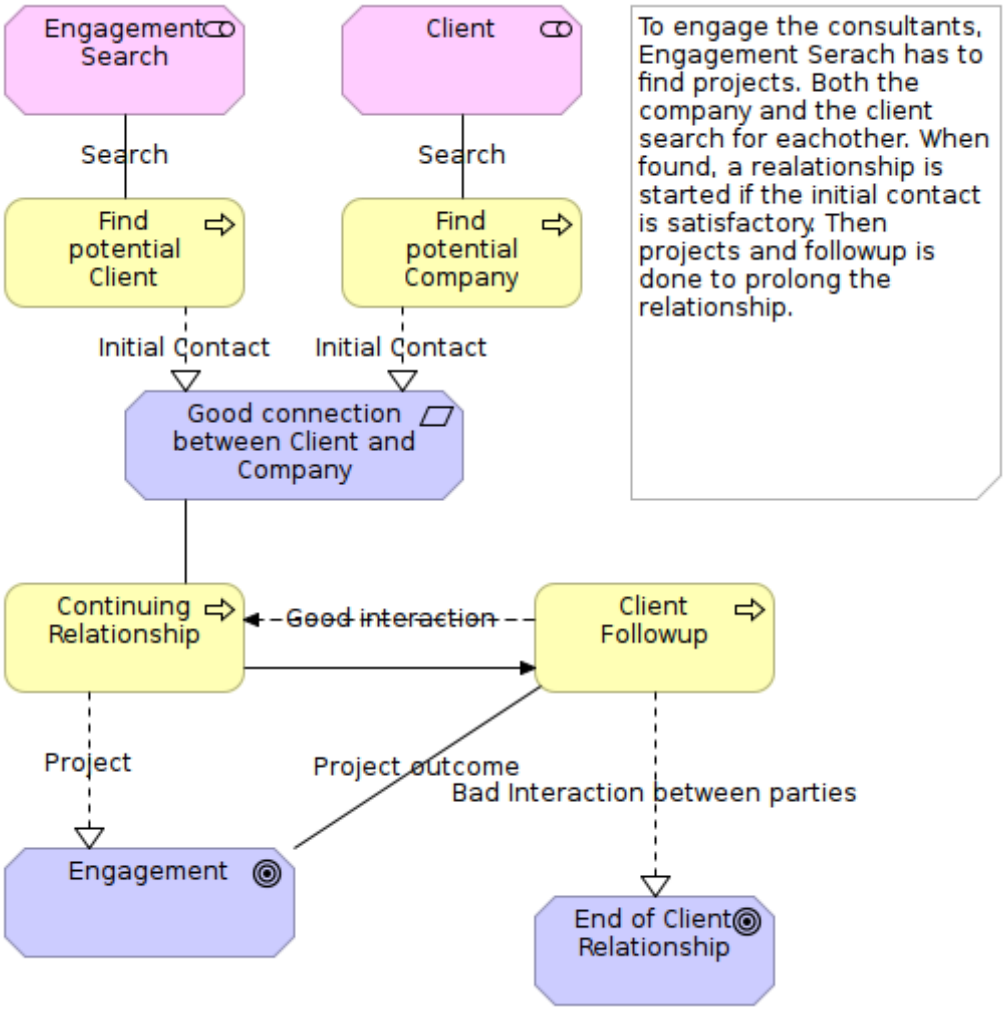

Figure 9: Sales