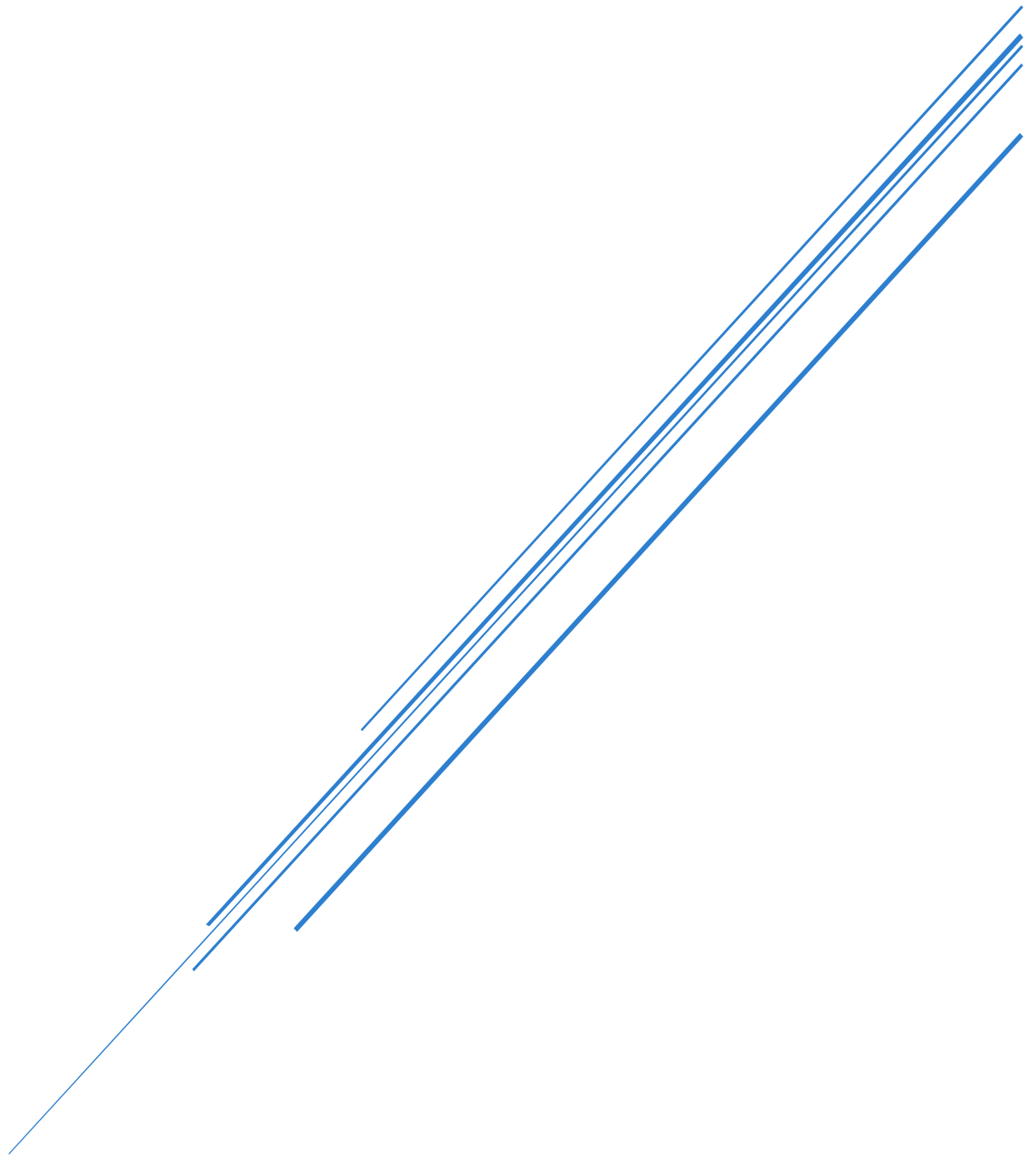


IMPLEMENTING A FINANCIAL BUSINESS MODEL TOOL IN A JOINT VENTURE NEGOTIATION

A case study by Youri Ton



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Abstract

Joint ventures are a common occurrence in the business world. Yet over half of joint ventures eventually fail. One of the reasons for this is the underestimation of the financial negotiation step, which leads to long lead-times, low accuracy and in turn low trust levels between partners. This study aims to build a tool which automates the financial business model construction, aiming to reduce the amount of time necessary for this step, as well as increase accuracy. Furthermore, the effect of the tool and optimal moment of implementation of the tool were validated via semi-structured interviews with experienced people.

For the construction of the tool, relevant financial information, as well as technical details about the product were gathered from the host organisation, which was combined with theoretical research to ensure inclusion of all relevant aspects of a financial business model.

Outcome of the research showed an obvious perceived decrease in needed time for the financial negotiations of a joint venture, as well as increased accuracy and gained trust. Regardless of the potential drawbacks of the tool, the study showed the implementation of a financial business model tool would be beneficial for an international joint venture negotiation process, in turn increasing their chance of success.

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1. Introduction

This thesis will entail a case study regarding a joint venture negotiation between a Dutch manufacturer and an international client. This joint venture involves an investment from the customer to finance the construction of an assembly facility in which the products will be built. To ensure this facility and all its aspects are valued properly, a financial business model was constructed and altered over the course of the negotiation process, which is yet to be finalised. The construction and alteration of the financial business model is a lengthy process, which causes a bottleneck in the negotiation process. This case study will attempt to eliminate this bottleneck by constructing a tool which automatically constructs the financial business model based on relevant parameters, including technical data regarding the product and financial information gathered from the host organisation. This tool aims to reduce the time needed in this process.

Due to the nature and industry of the host organisation, there are required levels of confidentiality. Because of this, the name of the company will not be disclosed, neither will the product. Without this confidentiality the thesis could not be written.

In this thesis, several subjects will be included. Firstly, the problem statement is explained further, to ensure the correct direction of the thesis, followed by the theoretical and practical relevance of the research. Then, the theory is explained, on which the constructed tool will be based. After this, the methodology of the tool will be laid out, and the tool will be explained on a detailed level. Furthermore, the findings from the investigation will be discussed and a conclusion will be given. Lastly, there will be advisories for future research and a discussion of potential improvements.

In this thesis, several financial constructs are used, yet not necessarily explained. To keep the thesis to the point, it is assumed that the reader has a basic understanding of the relevant financial topics used in the thesis.

2. Problem statement

Every year, hundreds of joint ventures are set up globally. Though with different incentives, every joint venture follows the same brought path, which contains four general steps:

1. Search of partner: A joint venture always contains at least one relationship between partners. In the process of starting a JV, due diligence on the different partners is of great importance. Furthermore, this stage enables organisations to find the partner with the best resources.
2. Choosing a joint venture type: Joint ventures can be structured in different ways, both in terms of ownership and purpose. It is important to determine these factors in the early stages of the negotiation to ensure every party is on the same page.
3. Determining the financials: A large part of the joint venture negotiation process are the financial negotiations. This stage not only regards the investments of each party, but also should include the construction of a financial business model.
4. Signing the deal: When all relevant aspects are considered, and all parties are in agreement, the deal can be signed.

The importance of this process is great, as mistakes can have large consequences. Even so, however, the usage of a playbook for joint venture negotiations is much less common than in the event of a merger or acquisition. This, combined with the added complexity of a joint venture, makes for a lengthy negotiation process, which can lead to strains and pressure in the deal.

Part of this lengthy process is the negotiation of specific (financial) terms and conditions related to the joint venture. According to Rinaudo and Roswig (2016), this part of the negotiation takes an average of around 50% of total negotiation time, even though the risk exposed in this part of the process is only 10%. The misaligned focus on risks in the negotiation process can and does lead to wrongful prioritisation of negotiation steps. Logic dictates that specific joint venture details cannot be determined without a set, dually approved direction of the joint venture. This, however, is the case in many instances, all because of a lack of structure in the process.

Objectives for this case-study is to investigate how the implementation of a business model valuation tool can benefit in the process of joint venture negotiation, and when the preferred moment of implementation would be. The implementation of the tool should improve the structure of the negotiation process and move the focus from the business model valuation to the determination of the direction of the joint venture. Furthermore, as the tool is based on relevant

parameters, it is not possible to jump to this stage of the negotiation process before all these parameters are determined, again improving the structure of the negotiation process.

to achieve this objective, the following questions must be answered:

1. Construct a financial business model tool for an international joint venture.
2. In which stage of the joint venture negotiation process should a financial business model tool be implemented?
3. What is the impact of the tool on the total time taken for the joint venture negotiation process?
4. Would the implementation of the financial business model tool be beneficial to the joint venture negotiation process?

By answering these questions, the main research question can be answered. Which is:

To what extent does the implementation of a financial business model tool impact the negotiation process of an international joint venture?

3. Relevance

This chapter will elaborate on the relevance of the conducted research. The first paragraph will focus on the failure rate of international joint ventures, after which the structure of a joint venture will be discussed. The last paragraph will argue the practical relevance of the research and the constructed tool. These three aspects of relevance were chosen as the expected influence of the implementation of a financial business model tool is influenced by these aspects most.

3.1. Failure rate international joint ventures

Joint ventures are regarded difficult to set up, as there are several significant challenges to overcome in the process (DiversityPlus, n.d.). Firstly, there is the search for the correct business partner with whom to enter the joint venture agreement. Even though there are several ways to find potential partners willing to enter a joint venture, it is difficult to find a partner with the exact qualifications needed for a successful partnership. In addition, the communication between both joint venture partners is of great importance, as miscommunications within a joint venture can cause large risks and jeopardise the success of the organisation (DiversityPlus, n.d.).

In international joint ventures, these challenges are amplified as communication can be more difficult and the search for a suitable business partner is more challenging. Combination of these and more risks and challenges mean the failure rate of international joint ventures is high (Killing, 2017). The high failure rate of international joint ventures is not a current development, as older research also suggests high failure rates amongst international joint ventures, often due to similar reasons (Datta, 1988)(Groot & Merchant, 2000).

The implementation of a financial business model tool should help reduce these issues, as the tool will give an accurate and calculated overview of the financial expectations of the joint venture. This will help reduce the uncertainties regarding financial performance in the search for a suitable joint venture business partner.

3.2. Joint venture structure

Kwicinski et al. (2016) argue ten main reasons for international joint ventures to fail, including over-valuation of strategic objectives. According to the article, only a quarter of joint venture dealmakers consider themselves good at making financial models for a joint venture, and more than half of JV dealmakers consider themselves strong makers of business cases, as shown in Figure 1.



Figure 1: Dealmakers' abilities (Kwicinski et al. 2016).

To determine the structure of a joint venture, all roles and perspectives of the joint venture should be clear to all potential parties involved. As many dealmakers do not regard themselves strong in the valuation of contributions and development of strategy, the financial business model tool will help structure and indicate these aspects (Kwicinski et al. 2016). The tool will be an aid in the process as it calculates all relevant financial information based on a limited amount of input. As most of the process would be automated, the process of valuation and strategy development will be less prone to errors, in turn benefitting the joint venture negotiation process and potentially reducing the failure rate.

3.3. Practical relevance

For this case study, all relevant information is used in practice and for an existing joint venture negotiation and operation. The need for the constructed tool used in this case study originated from a need in this negotiation process, as the financial business model of the joint venture was deemed too complex to estimate. The combination of this complexity and the lengthy periods between negotiation sessions caused the need for a tool in which the financial business model could be calculated and shown with immediate calculations based on given parameters. A research behind the parameters to be used, the importance of relevant aspects and the overall set-up of the tool can be beneficial to more international and domestic joint venture negotiations, making both the tool and the research necessary to construct it a valued addition to joint venture research. Furthermore, Skuna (2000) mentions the importance of data display in the financial

stages of a joint venture negotiation, as a strong display of data will increase the bargaining power of the negotiating party. In addition, Skuna (2000) mentions the importance of trust and transparency in the negotiation process, all of which can be improved with a dedicated tool for a financial business model, in which all values are calculated rather than estimated.

The tool will be implemented in the financial negotiation stage, which, according to Kwicinski et al. (2016), is a stage on which most time is spent in the negotiation process. Implementation of the tool should reduce the time of financial negotiation by achieving more accuracy in financial data, in turn reducing uncertainty. In this stage, the tool will be automating the construction of the financial business model for the joint venture, which is currently taking roughly 3 weeks to complete, as other activities of involved parties reduce the available time for the joint venture. Furthermore, the tool will be a method of communicating the financial situation of the organisation and the impending joint venture to other stakeholders, who are perhaps less financially focused. All in all, the tool should prove helpful in the automation and accuracy of the financial business model.

4. Theory

This chapter will focus on the theoretical basis of the research. It will explain what a joint venture is, how it is structured, and which stages are relevant to the research. Also, it will explain the relevant data necessary for a successful financial business model tool. Furthermore, it will discuss why the research is important and it will investigate when the implementation of the tool is most useful based on existing theory.

4.1. Definition of Joint Venture

A joint venture can be defined as “a strategic arrangement between two or more companies where they pool resources and expertise to achieve a common goal” (Suazo, n.d.). Parties entering the joint venture typically possess specific resources, which can include technology, personnel, intellectual property, or capital. Combining the specific resources of the parties could and should be beneficial to both parties of the joint venture (Suazo, n.d.).

Reasons to enter a joint venture are plentiful and varied. Yet there are six major reasons generally used: Access to resources, shared risk, flexibility, new market penetration, improved bargaining power and funding (“A basic guide to the legal process”, 2020). For this case study, new market penetration and funding are relevant, as these are the reasons for the host organisation of this study to enter a joint venture. Therefore, focus will be on these joint venture aspects.

Market penetration can be defined in two ways. Firstly, market penetration can be a measure, defined as the percentage of customers of a specific company compared to the estimated total number of customers in the market. Secondly, market penetration can be defined as an activity, namely the activity of entering new markets or expanding the market share in existing markets for a specific company (Lighter Capital, 2024). For a joint venture, the second definition is used. “It is common for a company to partner with a ‘local player’ in the new market it is looking to enter” (“A basic guide to the legal process”, 2020). Partnering up with an existing local entity can greatly reduce the cultural and regulatory barriers and accelerate the growth of market share in the new area (“A basic guide to the legal process”, 2020).

4.2. Structure of a Joint Venture

A joint venture is typically structured based on the collaboration and sharing of resources of two parties. One resource important to a joint venture can be access to funding. If a smaller company, or a company with less funding capacity starts a collaboration with a larger entity, with more

access to funding, this could accelerate the growth of the smaller company (“A guide to the legal process”, 2020).

Every joint venture is laid out in several steps. According to Bamford (2022), these steps should be:

1. Listing each shareholder contribution required for the intended business

The contributions of the parties can be categorised into contributions influencing ownership and contributions not influencing ownership. Contributions influencing ownership include funding, cash flows, ownership and services offered at no cost. Contributions not influencing ownership include contributions at market, such as services and products, technologies and more (Bamford, 2022).

2. Determining ownership split between parties

In the negotiation of the ownership structure, several aspects have to be determined. Firstly, the easily valuable contribution of the owners has to be determined. This includes input of cash, funding commitments, external cash flows, inventory and more. Subsequently, the more difficultly valuable contributions must be determined. These include potential brands, relevant relationships, expertise and more. These two aspects are then compared to the suggested ownership split. If this ownership split is agreeable to both parties based on the value of contributions, the split is locked in.

3. Considering approaches to overcome valuation gaps

If gaps occur in the ownership split, these need to be compensated accordingly. This can be done in several ways, easiest of which is the true-up to even contributions. Simply put, a true-up is an additional cash payment done by the party which contributes less. In addition, joint venture parties can use contracting to make sure contributions are even.

4. Choosing corporate form

After the ownership structure is determined, a corporate structure can be set up and implemented. This structure has to align with the ownership structure.

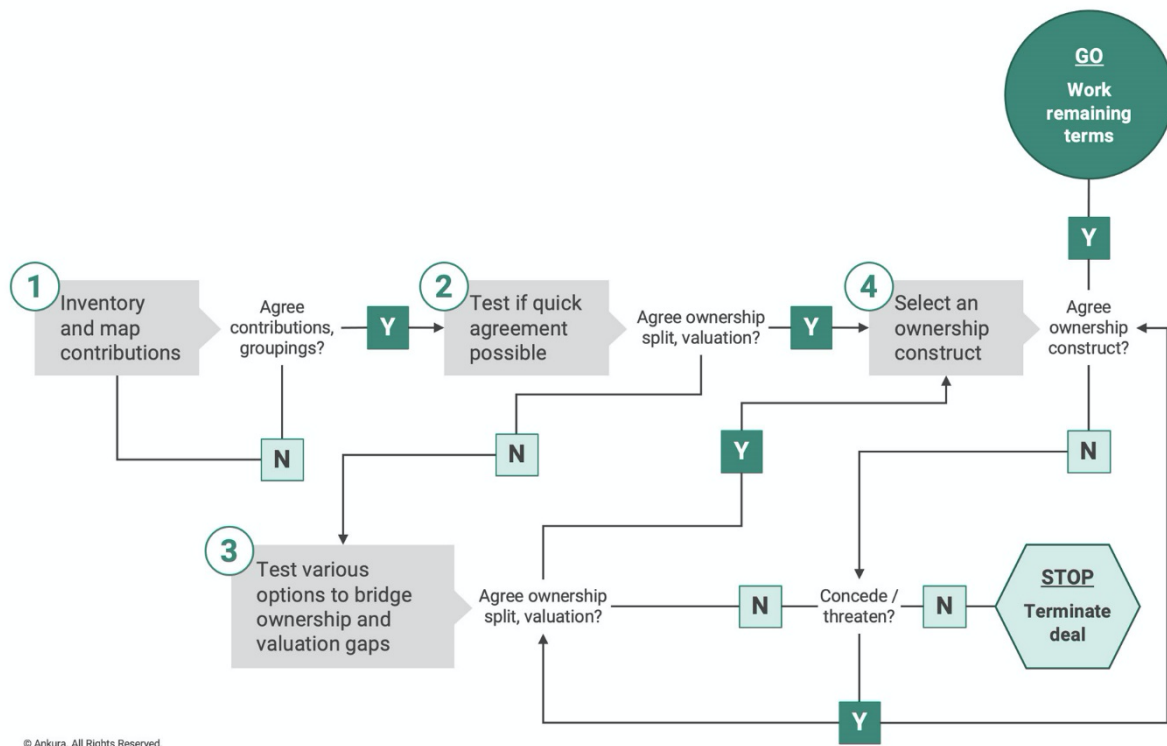


Figure 2: Joint venture structure and valuation roadmap (Bamford, 2022).

4.3. Challenges in starting a Joint Venture

When two or more parties start a joint venture together, there are four major challenges to consider. These four are the strategic alignment, governance systems, economic interdependencies and building the organisation (Bamford, 2014). In this thesis, focus will be on the economic interdependencies between two parties, which are in a joint venture negotiation.

The negotiation process of a joint venture usually takes longer than initially expected, for which there are several reasons. Firstly, a joint venture generally handles more complex issues than a merger or acquisition. Where M&A's are mainly focused on valuation, representation and warranties, joint venture negotiations additionally include the scope, exclusivity, intellectual property ownership and ongoing operation and governance of the partnership (Bamford & Pyle, 2022). In addition, the joint venture route is less common than an M&A route, which results in limited benchmarking opportunities. Lastly, a joint venture process is generally an activity additional to the main tasks of involved members, which means the process is easily pushed forward, as normal operations are prioritised (Bamford & Pyle, 2022).

The negotiation process of a joint venture can be a lengthy process. According to Rinaudo and Roswig (2016), the negotiation process of a joint venture can take up to six times longer than a

M&A negotiation process. The additional length of this process can cause uncertainty for the involved parties, which could eventually result in the failure of the joint venture. Even so, Rinaudo and Roswig (2016) argue the negotiation process generally advances too quickly, with extensive discussion on specific values too early in the negotiation process, whereas this should be done in the later stages of the process. According to the article, the time spent on the stages of negotiation should be proportional to the amount of risk in the respective stages. The found misalignment of these values are visualised in Figure 4.

Joint-venture planners spend more time on phases of negotiation that create less value.

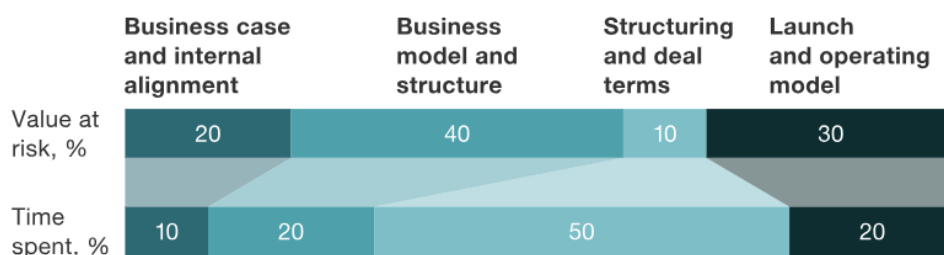


Figure 4: Misalignment of exposed risk and time spent in negotiation stages (Rinaudo & Roswig, 2016).

This misalignment and quick jump to specific deal terms, makes that the negotiation process takes longer, as deal terms and conditions are difficult to specify if the more general direction and objectives of the joint venture are not yet determined (Rinaudo & Roswig, 2016). This misalignment can also result in delays due to unforeseen, yet relatively easy to find issues, which is especially the case in international joint ventures between parties in different cultures and jurisdictions.

A survey by Rinaudo and Roswig determined less than a quarter of companies active in joint ventures have a joint venture design and implementation playbook. M&A playbooks, however, are implemented and standardised in most M&A deals (Rinaudo & Roswig, 2016).

A playbook in both joint ventures and M&A offers a structure to the deal process and eases the decision-making processes for the deal team. A playbook can be seen as a roadmap indicating the route to take in a M&A and joint venture process (M&A community portal, 2023). An interesting sidenote is that the importance of the use of a joint venture playbook is acknowledged, yet actual implementation is rare.

For a joint venture, both parties must agree on certain financial items such as valuation of the venture, future prospects and which party is responsible for which financial aspects. These agreements are generally based on balance sheets, cash flows and future prospects of the joint venture (Egan & Jackson Walker, 2010). To determine the future prospects of the joint venture, it is important that the venture is budgeted properly, and the cash flows are as detailed as possible. Determining these cash flows can be a lengthy process, especially considering joint ventures are generally a side-job for the involved deal teams.

The combination of mentioned challenges and risks means the failure rate of joint ventures is high, with over half of JVs failing (Kwicinski et al. 2016). Consequently, many joint ventures either continue while struggling to meet expected targets, eventually bleeding out, or fail spectacularly as a result of lawsuits. Figure 5 shows several joint venture failure statistics indicating the complexity of the concept.

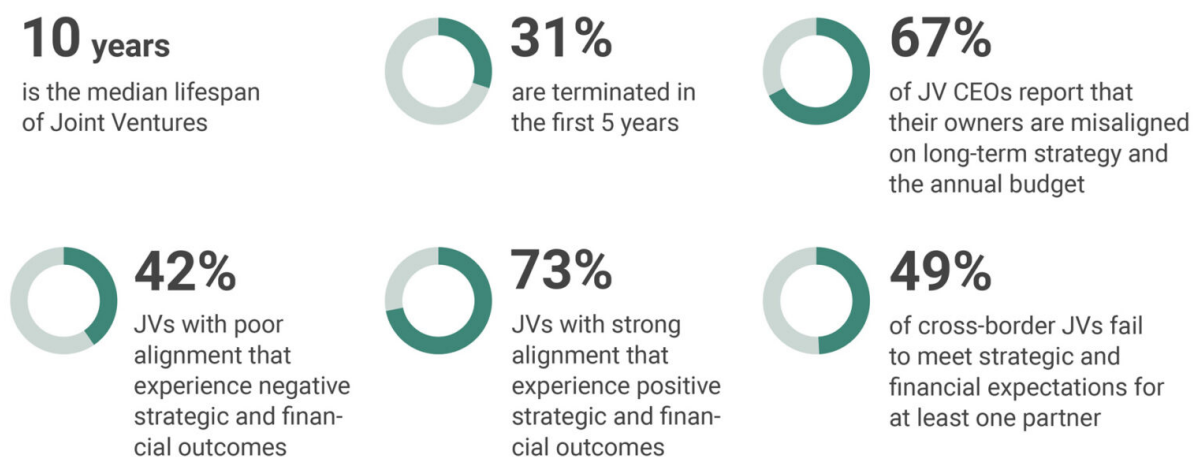


Figure 5: Failure statistics joint ventures (Kwicinski et al., 2016).

4.4. Overcoming the challenges

In their article, Kwicinski et al. (2016) identified ten different reasons for the failure of joint ventures. These reasons, listed below, are further explained in Appendix 1. Each of these reasons, or challenges, can be solved or prevented in several ways.

4.4.1. Misalignment on venture strategy

A joint venture always regards two or more parties entering in a business together. As people, and therefore businesses, can disagree, a misalignment in strategy can occur. Benchmarking by Kwicinski et al. (2016) shows that almost 58% cannot agree on annual budgets due to differences in future views. These differences, on a partner level, put pressure on the JV management,

creating a situation in which the CEO must focus on overcoming internal conflicts and differences, instead of focusing on operations of the joint venture. To prevent these differences, joint venture partners can use several methods.

Firstly, strategic due diligence on the joint venture partner can be conducted. Due diligence is especially important in a joint venture context when compared to an M&A deal. Partner due diligence can give an indication on how to make a joint venture deal, in addition to whether the deal should be made in the first place (Bamford & Kwicinski, 2022). After all, a joint venture partnership puts the responsibility of performance on the partners. Ignorance is not an option in this case (Kwicinski et al., 2016). Partner due diligence should give insight into potential friction in a joint venture partnership, by identifying strengths and weaknesses of involved parties. Furthermore, partner due diligence will give an accurate overview of the financial position of a partner, which could be an indication of future problems or benefits (Madathil, 2019).

When partner due diligence is done, joint venture partners should conduct a detailed, multi-year business plan, which matches with the desired strategy. By doing so, partners can ensure alignment in strategy view, before the joint venture has started (Bamford & Kwicinski, 2022).

After these stages, the joint venture can be set up. In this stage it is of great importance to appoint a board with the right attitude and view on the overall strategy of the joint venture. The communication of this board with partners should be intensive with relevant meetings and data sharing (Kwicinski et al., 2016).

4.4.2. Over-satisfying parent needs and requirements

Joint ventures can suffer from an understandable urge to satisfy every involved owner, partner, or shareholder, which can severely impact the performance of the business. With more focus on ownership preferences, the organisation can invest less time and effort into the customer. In many cases, this leads to underperformance due to a very complex product, which does not perform well in any specific aspect (Kwicinski et al., 2016). An example of this is Integrion, a joint venture with no less than 17 owners. The joint venture failed due to a burdened product which aimed to please all 17 owners, without actually performing in any specific tasks (Giera & Gillespie, 2001).

To prevent this misalignment, there are several solutions. Most of these solutions are implemented in the negotiation stage of the joint venture. In this stage, the owners and management should include clauses which state what owners can and cannot ask and expect from the joint venture. Furthermore, there could be a clause stating that owners are responsible

for the costs of all or most of the changes they want to make to the product, which are not necessary for the customer satisfaction (Kwicinski et al., 2016).

4.4.3. Insurmountable culture clash between parties

A big challenge for joint ventures is the creation of a suitable corporate culture (Kwicinski et al., 2016). This challenge is generally amplified when considering international joint ventures, due to the larger differences in external culture, which influences the corporate culture structure (Ahmed & Pang, 2009). According to Ozorhon et al. (2008), a cultural difference can have a negative impact on the performance of a business, if not managed well. Issues these differences can create include communication problems, which may hinder the exchange of knowledge, managerial conflicts within the organisation, issues with the resolution of these conflicts, and the erosion of partner compatibilities (Ozorhon et al., 2008). A study done by Kwicinski et al. indicates that only 60% of questioned people involved with joint ventures felt the culture of the organisation was suitable for them to thrive, whilst only 50% agreed with a consistent way of communicating the culture by the organisation. Overview of this data can be found in Figure 6.

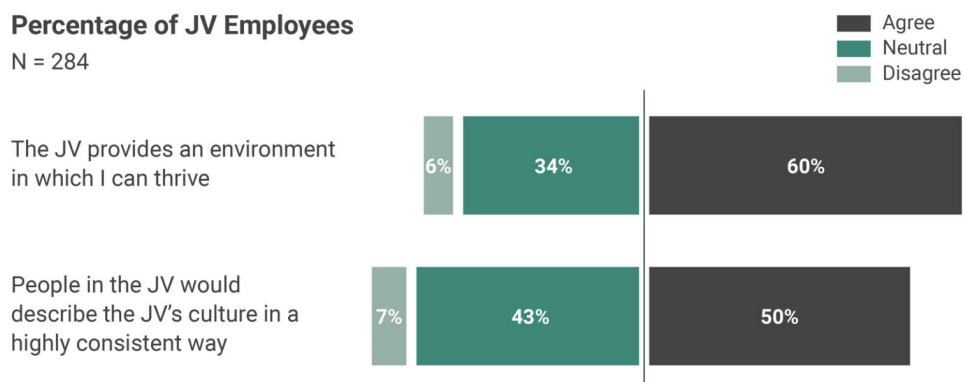


Figure 6: Employee's vision on JV culture (Kwicinski et al., 2016).

Potential solutions to this problem focus primarily on partner due diligence prior to the creation of the joint venture. In this process, it is important to look into other joint ventures with the partner and investigate what the corporate culture is. In addition, the joint venture should incorporate specific legal agreements to ensure the company culture is suited to both parties (Kwicinski et al., 2016).

4.4.4. Inadequately defined operational interface with the parents

Joint ventures are typically created out of the operations of existing companies. Because of this, the organisations can be tempted to introduce their existing operation structure into the joint

venture. This, however, can kill the spirit of an organisation and unnecessarily drive-up costs, eventually failing the business (Kwicinski et al., 2016).

Potential solutions for this issue are the early inclusion of operations into the negotiation process. This would make sure each partner knows what the joint venture needs, and which structure the joint venture should have. This overview of operations should include specific items such as the financial business model, operational business model and structure overview (Kwicinski et al., 2016).

4.4.5. Parent failure to deliver on capability-related contributions

As mentioned, a joint venture aims to combine the capabilities and resources of two or more parties to achieve goals that neither company could have achieved separately. In a joint venture, the partners each have to put the needed resources and skills forward. Due to the complex nature of skillsets and knowledge, these aspects are usually difficult to adequately define in a legal agreement, which is necessary for a joint venture. Due to this, knowledge and skills can be implemented in a sub-optimal manner, which could hurt the joint venture.

The difficulties in the definition of knowledge and skills usually means the legal documents of a joint venture are focused on easily quantifiable resources such as money and operations, to combat the complexity. This leaves the knowledge and skills aspect open for interpretation and could therefore result in contrasting activities from both parties.

A potential solution for this issue is the thorough valuation of all tangible and intangible assets each partner is supposed to contribute to the joint venture. This will create a clearer overview of which aspects come from each partner, and how to implement the resources properly.

4.4.6. Over-valuing strategic objectives to justify the deal

“Ventures are often sold internally as a way to achieve strategic objectives like market access, future positioning, or learning” (Kwicinski et al., 2016). In a joint venture process, the value of these aspects can be overestimated the true value is difficult to predict and put into numbers (Khubchandani & Gore-Randall, 2024). Furthermore, dealmakers indicate their ability to value these aspects of a joint venture to be low, as indicated earlier in Figure 1. Variance in performance and deviation to the set trend line is expected in any joint venture, and is very common. This, however, falls outside the over- or underestimation of a joint venture’s future performance. As variance in performance is exclusively influenced by external factors, potential overestimation is caused by internal factors such as strategy, planning and management (Park, 2020).

To combat this problem, joint ventures should negotiate and design a specific strategic plan, on which is indicated exactly where, when, and how profits or performance is gained after the joint venture. By doing so, the joint venture parties create a situation in which everyone understands both direct and indirect benefits of the joint venture, and their likelihood (Kwicinski et al., 2016).

4.4.7. Changes in parent circumstances minimise JV relevance

Though joint ventures can be beneficial both financially and structurally to venture owners, these aspects can also be the downfall of a joint venture (Kwicinski et al., 2016). A joint venture can become irrelevant quickly when one of the owning organisations falls into financial difficulties, and is unable to support the venture further. In addition, restructuring of the owning organisation could make the joint venture obsolete altogether, or the joint venture may get less priority after a supporting partner leaves.

To combat this issue, the joint venture partners should always make sure any other partner is financially stable via strategic and financial due diligence. This process would make sure there are no surprises related to finances in the near future of the joint venture program. After striking the deal, partners should invest time into establishing strong relationships with several managers within the partner organisation, to make sure there is sufficient support in case a person leaves the partner organisation (Kwicinski et al., 2016).

4.4.8. Inability to address asymmetric economics when they arrive

A joint venture always has to cope with two or more owning organisations. In these ownership structures, the interdependencies are usually not exclusively financial. In many cases, the joint venture has contractual obligations to uphold regarding the direct operations of the joint venture. This, for example, could be the supply of resources from one of the parent organisations.

These interdependencies need not be an issue, as long as the structure and the differences for the parent organisations are clearly defined and acknowledged, as these differences can lead to differing break-even points for the parent organisations (Kwicinski et al., 2016). Failure to acknowledge these differences can lead to the collapse of the joint venture, as a parent organisation will have little incentive to continue to joint venture if the partnership seems more beneficial for the other party.

A solution to this, is the mapping of the financial situation, and direct or indirect benefits of the joint venture. Only when these aspects are mapped and understood, can the contract be made equally beneficial to both parties.

4.4.9. Inability to grow and evolve the JV with the market

Customer markets grow, shrink, or disappear over time (Docters et al., 1997). A good, well-managed organisation moves with these market changes to maintain their competitive advantages and subsequently, revenue. A company that does not move with the market and keeps developing the products, can experience great difficulties to stay in operation when the gap between the product and the market needs grows (Docters et al., 1997). Joint ventures are more prone to this problem as the organisations are managed by more than one party, which can create conflicting directional opinions. If the shareholders' agreement is too narrow to allow for product development and the exploration of new markets, the joint venture could struggle greatly to stay in business (Kwicinski et al., 2016).

To combat this issue, the parent organisations must work together to identify business opportunities for the joint venture, both before and after the deal phase of the joint venture. Only if these opportunities are identified can the joint venture be stable in the long term (Kwicinski et al., 2016).

4.4.10. Picking the wrong operational model and failing to change it

The operating model of a joint venture indicates the dependencies of the joint venture on the parent organisations in terms of independence levels, usage of resources and how the owners will relate to each other (Kwicinski et al., 2016). Often, the operating model does not suit the need of the joint venture. As conditions change, the operating model can become outdated, not sufficiently defined or incapable of succeeding altogether. In these cases, major changes are required.

Changing an operating model is often a lengthy process, as the project is usually added to the day-to-day tasks of the responsible management. Delays as large as 30 months are not uncommon. The organisation, however, does often benefit greatly from the restructuring, with 10%-30% growth in operating income after implementation (Kwicinski et al., 2016).

JV Performance Profile

Percentage of JVs; N = 49

Successful █
Unsuccessful █



Ventures that underwent at least one major restructuring or ownership transformation



Ventures that did not undergo any major restructurings or strategic ownership transformations

Figure 7: Failure of joint venture with and without restructuring (Kwicinski et al., 2016).

As can be seen in Figure 7, joint ventures that do not undergo major restructuring only have a 33% rate of success, compared to a 79% rate of success for joint ventures that did undergo major restructuring. This difference is mainly explained by the fact that an organisation simply cannot perform and stay competitive without the proper structure.

To combat this issue, the parent organisations should invest time into the construction of a proper operating model, which defines all relationships well. More importantly, the parent organisations should not be afraid to deviate from this model in the future, by implementing a model more suitable to the joint venture. After all, not all aspects of the market and the joint venture can be predicted, which makes the operating model prone to failures when not updated along the way.

4.5. Benefits of a model

As mentioned, most of the issues listed in 4.4 can be overcome by proper negotiation, valuation and structuring of the joint venture prior to the joint venture setting up, as explained in 4.5. Though cultural and behavioural differences are very difficult to model, the implementation of a semi-automated business model tool can be beneficial.

The needed business model tool should be able to indicate both operational and financial structures, capacities, and capabilities for the joint venture. In addition, it should be able to value resources properly and consistently, which offers the opportunity for management to achieve a more suited strategy for the joint venture.

To optimally benefit from the business model tool, it should be implemented at the right moment in the negotiation process. Firstly, the partners should perform the due diligence on each other, the cultural differences, and the market, as indicated in the timeline of Figure 4. After these

stages, the tool can be implemented to achieve the most accurate strategy. Implementing the tool too early could lead to the tool being used too much, and parents fixating on the tool, in which the cultural and market due diligence will be neglected, as these aspects are not included in the tool.

4.6. Necessary inputs for tool construction

A financial business model tool for a joint venture must include all relevant financial data and information regarding the joint venture. This is necessary to achieve maximum transparency in the joint venture negotiation process, and to ensure a truthful future financial perspective. This perspective is essential as it directly indicates the performance of a joint venture, and with it its likelihood of success. The essential items for a financial business model tool are explained below.

4.6.1. Financial statements

Any business model should include a balance sheet, profit and loss statement (P&L) and a cash flow statement. These statements are included as they are a generally accepted and understood indicator of financial performance of a business. This general acceptance also includes banks and potential investors, which makes financial statements essential in the search for investors and capital (EY, 2019).

“A balance sheet is a financial statement that provides a snapshot of what a company owns and owes” (Fernando, June 2024). The balance sheet of a company shows the current assets and liabilities of an organisation. Based on this financial data, several ratios such as the debt-equity ratio and acid-test ratio can be conducted, which are widely used by investors as an aid to determine the value of an organisation (Fernando, June 2024).

In addition, a balance sheet can indicate the level of risk taken in an organisation, as it shows the debt compared to assets, and liquidity of an organisation at a given time. A high debt-equity ratio indicates an organisation borrows more capital from the market to fund operations, while a low debt-equity ratio indicates an organisation uses its own equity to fund operations (Nirmal Bang, n.d.). If the debt equity-ratio gets too high, an organisation can experience financial risk as the debt can no longer be covered by the assets of the company.

The liquidity of a company indicates the amount of free cash or liquid (easy to sell) assets the company possesses, which is an indication of its ability to cover unexpected expenses. If the liquidity levels dip below the necessary amount to cover operational expenses, an organisation can experience severe financial difficulties and even face bankruptcy, as operations cannot continue (Investopedia Team, 2024).

A limitation of a balance sheet is the fact that it is a snapshot in time. When compared to previous years, a balance sheet can give a clear understanding of the financial performance of an organisation, but a single balance sheet can make this difficult. This limitation is especially relevant for organisations in early stages of growth, or joint ventures, as there often are little to no previous balance sheets available, to which a current balance sheet can be compared (Fernando, June 2024). Another limitation is that the balance sheet is subject to alterations due to alternating accounting systems. In this process, the balance sheet can be adjusted to look more favourable, without being untruthful. In addition, the balance sheet is subject to interpretation of the reader, as well as the estimations of the creator in terms of, for example, accounts receivable, which is to be ongoingly monitored to be accurate (Fernando, June 2024).

The P&L statement shows the financial performance of an organisation over a period of time, including sales, EBITDA and EBIT. These measures are of high importance to potential investors and financial institutions. Based on the EBIT and EBITDA, several ratios can be calculated with which the financial performance of organisations can be compared. Furthermore, the EBIT and EBITDA are essential in the valuation of organisations in case of mergers, acquisitions, or joint ventures (EY, 2019).

A cash flow statement of an organisation shows the cash coming in and out of the organisation over a period of time. These cash flows are usually divided into three sub-categories: operational cash flow, investment cash flow and financial cash flow. Operational cash flow shows cash in and cash out for core operations of the organisation. Investment cash flow shows the cash in and out for made investment over a period, which, in starting organisations, is generally mostly cash-out. Financial cash flow shows changes in cash as a result of financing activities (EY, 2019).

In addition to the financial statements, there are several ratios which can create a clearer indication of financial performance for an organisation. The relevant ratios for this research are solvency, current ratio, and quick ratio.

“A solvency ratio is a key metric used to measure an enterprise’s ability to meet its long-term debt obligations” (Hayes, 2024). Solvency ratios are widely used in the analysis of financial performance, as it considers all liabilities, rather than solely short-term debt. This means the ratio give a more accurate indication of an organisation’s ability to continue in business (Hayes, 2024).

“The current ratio is a liquidity ratio that measures a company’s ability to pay short-term obligations or those due within one year” (Fernando, February 2024). This ratio is calculated regarding the total current assets and all current liabilities. Contrary to other ratios, this ratio is

generally compared to others in the same market or industry. High deflections of this average may indicate inefficiency in financial management (Fernando, February 2024).

“The quick ratio is an indicator of a company’s short-term liquidity position and measures a company’s ability to meet its short-term obligations with its most liquid assets” (Seth, 2024). The quick ratio is regarded as more conservative than the current ratio, as the quick ratio only includes quickly available, liquid assets to cover short-term debt (Seth, 2024).

4.6.2. Operational cash flow overview

In a financial business model, an operational cash flow overview gives a forecast of the balance sheet, P&L and cash flow statement over a given time period. The purpose of an operational cash flow overview is to inform potential investors, financing parties or joint venture partners about expected future performance of a business. This overview is generally given in years, but can be given in months if necessary. Based on this information, a valuation of a company can be made based on expected future performance (EY, 2024).

In later stages, the operational cash flow overview can prove beneficial as the actual performance of the organisation can be compared to the forecasted performance of an organisation. Afterwards, the forecasting can be adjusted to be more accurate (EY, 2024).

For a tool regarding a financial business model for a joint venture, with no previous collaboration of financial statements, the operational cash flow statement is essential. This statement is the only method of valuation of the joint venture and to have financial understanding of the joint venture. It is, therefore, of high importance that this forecast is calculated as accurately as possible.

4.6.3. Financial business model inputs

Each financial statement needs input to be calculated. This is especially true for the estimation of future financial statements. As mentioned, future financial statements are essential for the estimation of financial performance of a joint venture, as there are usually no previous financial statements on which to base valuations or negotiations. Relevant inputs for the future financial statements are: revenues, COGS, operating expenses, personnel, capital expenditures and financing.

Revenue forecasting is essential to financial modelling. It can, however, be challenging to accurately estimate revenue if there is no historical data on which to base the forecasts. To achieve an accurate revenue forecast anyway, there are several steps to be taken (EY, 2024).

Firstly, the current financial situation of the organisation has to be determined. This will function as a baseline onto which the future estimates will be added. In determining the current financial situation of an organisation, it is of great importance that the calculations are accurate, as inaccuracies will carry in the forecast. In addition, several aggressive and conservative estimates will be made based on customer research, market research and comparisons with competing organisations. Based on this, a forecast of revenue can be estimated (Rampton, 2015).

“Cost of goods sold is the total amount your business paid as a cost directly related to the sale of products” (Rosenberg, 2024). For a forecast, it is essential to accurately determine the COGS, as it is a key measure of calculating the earnings of an organisation. COGS can be expressed in different ways. For physical products, the COGS is usually a fixed amount per product, as it can be determined by the sum of parts and assembly costs. For organisations selling a service or working with sales commissions, the COGS is generally a percentage of the revenue (EY, 2024)(Rosenberg, 2024).

To determine the COGS of a product with a large number of parts, a bill of materials (BOM) is often used. The BOM is not a substitute for the COGS, but rather a part of it. Generally, the COGS is determined by the BOM and additional costs regarding labour, shipping and other relevant costs directly related to the product (Baddeley, 2018).

For physical products, it is important to note that the COGS can be subject to changes. These changes can result from future discounts, optimisation of parts, inflation, etc. For this reason, the COGS in financial forecasting is generally adjusted yearly by a certain percentage. Whether the COGS increases or decreases depends on the nature of the product. Very new, not yet optimised products generally decrease in COGS over time, due to cost savings in the production process, whereas fully optimised products generally increase in COGS as raw materials get more expensive (Rosenberg, 2024).

Operating expenses include all costs related to day-to-day operations (Mercieca, 2024). These cost, contrary to COGS, do not have to be directly related to the production and distribution of the product (EY, 2024). Operating expenses are difficult to estimate, as there are many variables in forecasting. Even so, operating expenses are essential in estimating the EBITDA of an organisation, therefore they are very relevant for a financial forecasting model (Baltova, 2023).

Personnel is relatively easy to forecast in a model. Generally speaking, an organisation is aware of the necessary workforce for the sale of a specific number of products. Consequently, if the expected sales number is known, the necessary personnel should be easily estimated (EY, 2024).

In an international joint venture, it is essential to research differences in working culture and work ethic of employees. These factors can greatly influence the production time of a product, which in turn influences the product-specific financials. For example, if an employee is willing to work 12 hours a day, instead of 8, production could theoretically be increased by 50% without increasing FTE.

“Capital expenditure, or CapEx, is money invested by a company to acquire or upgrade fixed, physical or non-consumable assets” (Barney, 2023). This includes real estate, equipment and property, also known as PP&E. The main difference between operating expenditures and capital expenditures is the timespan. CapEx is long-term (more than the fiscal year), and is not easy to reverse. More details about the differences between OPEX and CapEx are shown in Figure 3.

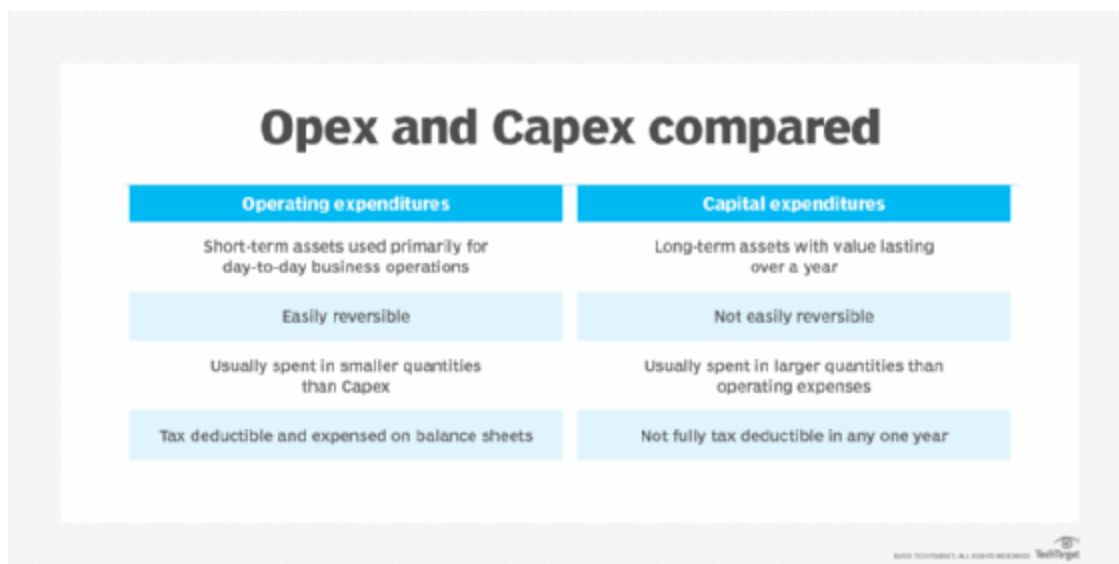


Figure 3: Opex and CapEx compared (Barney, 2023).

In forecasting, CapEx must be taken into consideration, as the investments specified in CapEx reach beyond the fiscal year. Also, assets specified in CapEx are expressed as depreciation, to make them less impactful on profits (EY, 2024). This, however, does make the CapEx relatively easy to estimate, as the depreciation is known in advance. Future CapEx, though, are difficult to predict.

The last important input of a financial business model is the financing structure and its costs. An organisation has the choice between several different methods of financing, or a combination of them. These include equity financing, debt financing, subsidies, and more creative financing methods such as crowdfunding (Young, 2020). Different financing structures have different benefits and drawbacks, so a suitable solution must be tailored to each organisation specifically.

After this, however, the cost of capital can be determined, which makes the estimation of future cost of capital easier and more precise.

5. Methodology

This chapter will contain the used methods of the conducted research. The methodology will start by discussing the construction of the tool and all necessary parameters and data needed. After this, the implementation of the tool in the negotiation process will be discussed. Lastly, the conducted research to determine the optimal time of implementation will be discussed. For all three steps the type of research, relevant data and structure will be explained, giving a clear overview of the research as a whole, with the goal of being suitable for duplication and expansion. To visualise the process, a diagram of the methodology can be found in Figure 8.

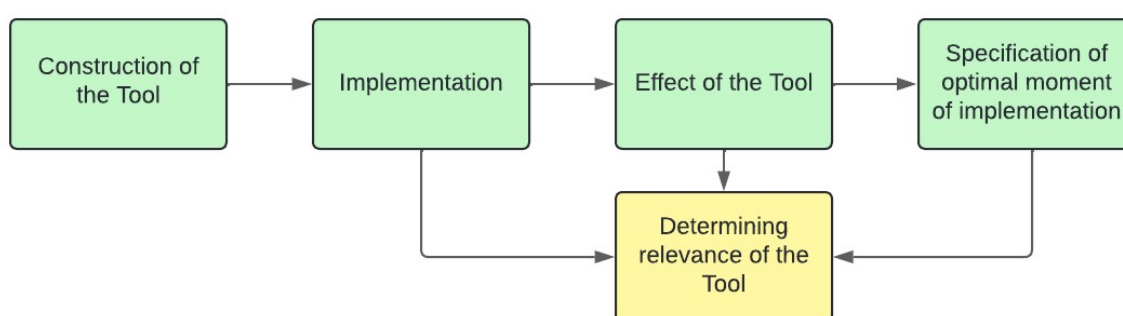


Figure 8: Diagram of the research process.

5.1. The Tool

To conduct this research, a relevant financial business model valuation tool had to be constructed. This tool had to show accurate future cash flows based on relevant input. This input contained parameters directly from the host organisation, which had to be easy to alter at any stage of the negotiation process. Because of the need for alteration, the tool had to be completely self-calculating, with accurate formulas for all stages in the process. Initially, the construction of the tool was done per product relevant to the joint venture, after which the business models for the individual products were combined to create the overall financial business model for the joint venture. The combining of the business models was done in such a way that any future, additional products for the joint venture would be simple to add without having to rewrite the business model completely. The tool used in this research was constructed in Excel, to ensure readability. Also, Excel was deemed the best option as it was most recognisable for involved parties.

The financial business model tool includes several relevant tables necessary to show all scenarios. Most relevant tables are the balance sheet, profit and loss statement and cash flow statement. In addition, calculations for the production facility and FTE analysis were conducted,

based on an estimated number of products produced and the necessary resources for these products. These parameters were not only essential to determine the value of labour and the production facility, but are also relevant as the investment of the customer in this specific joint venture will mostly be based on the necessary facility size and value of this facility.

To obtain the necessary data for the financial business model tool, relevant parameters were researched online, and obtained from involved individuals within the host organisation and investors.

5.2. Construction of the Tool

Based on the theoretical research mentioned in chapter 4, and the preferences of the host organisation, it was determined that the financial business model tool needed to include forecasts for the P&L, cash flow statement and the balance sheet. Based on these three financial statements, several relevant ratios could be determined: the solvency, current ratio, and quick ratio.

To ensure total transparency in the model, and make it as understandable as possible, all variables were explained in their own sheet, with calculations visible. Another benefit of this inclusion is the ease of navigation and changes of the model for future use.

5.2.1. Profit and Loss statement

The P&L includes the expected sales of the product, the COGS and the Opex, based on which the net result could be calculated. This was done in several steps.

The first step was to determine the estimated total sales per product. As the organisation sells their products to order, the number of products sold, is the number of products produced. All testing of the product has been done prior to the joint venture, which means there is no financial impact on the joint venture due to lost products. The number of products produced was determined by calculating the capacity of the available assembly lines. This capacity, in the tool, is scaled up over the next five years, starting with one assembly line.

The price of the product is expected to compound over the next years by 2,5% per year.

Based on this information the sales can be determined by the following formula:

$$\text{Sales Product A} = \text{Number of Product Produced} * (\text{Sales Price Product A} * 1,025^{\text{year}})$$

After sales, the total COGS for the product was calculated with the following formula:

$$\text{COGS} = \text{Bill of Material} + \text{License Fee} + \text{Sales Commission} + \text{Logistics} + \text{Warrenty} + \text{Unforseen}$$

For the necessary input variables of the COGS, known values were used where possible, to ensure accuracy in the model. The bill of materials was determined based on the current bill of materials, categorised into relevant segments to prevent unnecessary complexities.

The operational expenses were categorised into facility cost and employee cost, and are specific to a product.

$$\text{Operational Expenses} = \text{Facility Cost} + \text{Employee Cost}$$

Based on the COGS and the Opex, the net result per product can be calculated with the following formula:

$$\text{Net Result} = \text{Sales} - \text{COGS} - \text{Opex}$$

Due to uncertainties in the forecasting, all values in the model had to be made changeable, and interconnected, so a change in input would correctly calculate the relevant information. This changeability is of great importance, as it is the very reason why the tool was constructed for the host organisation.

For clarity in the model, and an overview of financial performance per product, all costs, revenues and profits were expressed in percentages. Doing so improved the model's readability and meant the model could be used by people with a less financially biased background.

5.2.2. Cash flow statement

The cash flow statement is based on the invoices paid in the respective period, mentioned per 1-month intervals. The cash flow statement eventually determines the net cash flow per product per period based on the following formula:

$$\begin{aligned} \text{Net Cash Flow} = & \text{Sales Payment} - \text{BOM} - \text{License Fee} - \text{Commission} - \text{Logistics} \\ & - \text{Warrenty} - \text{Unforseen} - \text{Facility} - \text{Employees} \end{aligned}$$

For all of the mentioned values, the cash flow statement uses the invoices paid in the period. Invoices are expected to have a two-month payment period, which means the invoices regarded in the calculation are those received two months prior.

5.2.3. Balance sheet

The balance sheet used in the tool is constructed out of several relevant aspects. The balance sheet is important to the valuation of the joint venture as it is a method of reviewing the financial situation of a company, differently to the cash flow statement and P&L. The balance sheet can

indicate whether a company has a positive net worth, which is an indication of financial health of a company. For the balance sheet in the tool, there are several relevant aspects.

The inventory row of the balance sheet is determined based on several financial aspects taken from the cash flow statement and the P&L. The formula to determine the inventory is:

$$\begin{aligned} \text{Inventory} = & \text{Sales BOM} + \text{Sales Logistics} + \text{Sales Unforseen} - \text{Purchase BOM} \\ & - \text{Purchase Logistics} - \text{Purchase Unforseen} \end{aligned}$$

The total cost and total sales of the product cannot be used for the formula, as these aspects also involve a licensing fee, management commission and warranty, which are not applicable to the inventory of the business. For the inventory only the costs and sales are used which are directly related to the physical product. All values for this formula are taken from the respective month for which the balance sheet is determined.

The provisions row of the balance sheet is determined by the following formula:

$$\begin{aligned} \text{Provisions} = & -\text{Sales Warrenty} + \text{Purchase Warrenty} \\ & - \text{Realised result Warrenty previous years} \end{aligned}$$

The provisions are important to the balance sheet as they are a measure of reserved money to cover future costs. As the company offers a warranty program for their products, it is important to reserve money to cover the warranty expenses. The provisions are corrected by subtracting the warranty results from previous years, to give an honest indication of the respective month.

Cash in hand for the balance sheet is calculated with the following formula:

$$\text{Cash in Hand} = \text{Cash in Hand previous year} + \text{Net Cash Flow}$$

Cash in hand is included in the balance sheet as it is an aspect of short-term assets for a company. Being the most liquid of assets, the cash in hand is important to cover any unforeseen costs related to operations.

The sales receivable of a company is the amount owed to a business by its customers following a sale of products (Taulia, 2023). In this case, this can be calculated by taking the difference between the sold products and the received payments:

$$\text{Trade Receivable} = \text{Sales Invoice} - \text{Sales Invoice Payment} + \text{Difference previous years}$$

The trade payables is the amount owed by the business to suppliers, and can be calculated by taking the difference between received purchase invoices and paid purchase invoices:

Trade Payables

$$\begin{aligned} &= -\text{Total Purchase Invoices Received} + \text{Total Purchase Invoices Paid} \\ &- \text{Difference previous years} \end{aligned}$$

The equity of a balance sheet is the shareholders' stake in the company. In the case of this joint venture, the net results of the sales of the products, is added into the equity for each period.

5.2.4. Ratios

To visualise the information calculated in the financial business model tool, the tool includes ratios based on the financial statements. These ratios are the solvency, current ratio and quick ratio.

The solvency of a company is the ability to cover all liabilities. In the tool, the solvency is expressed as a percentage and calculated with the following formula:

$$\text{Solvency} = \frac{\text{Equity}}{\text{Total Liabilities}} * 100\%$$

The second ratio included in the tool is the current ratio. The current ratio of an organisation indicates whether the organisation is able to cover its short-term obligations with current resources. The current ratio for the tool was calculated with the following formula:

$$\text{Current Ratio} = \frac{\text{Trade Receivables} + \text{Inventory} + \text{Provision} + \text{Cash in Hand}}{\text{Deferred Revenues} + \text{Trade Payables}}$$

Last ratio included in the tool is the quick ratio. The quick ratio indicates the degree to which a company has liquidity to cover short-term liabilities. In the tool, this ratio is calculated with the following formula:

$$\text{Quick Ratio} = \frac{\text{Trade Receivables} + \text{Prepaid Expenses} + \text{Cash in Hand}}{\text{Deferred Revenues} + \text{Trade Payables}}$$

5.2.5. Calculation of inputs

To determine the costs of employees and facilities, it was important to learn the necessary number of square meters and time needed for each product. The number of square meters was determined based on the existing assembly line in the Netherlands, which currently produces the exact products to be used in the international joint venture. The number of hours and personnel needed was more challenging to determine, as the work ethic, amount of shifts and length of shifts had to be determined based on the conditions in the host country, which differs in culture

compared to the Netherlands. Furthermore, the valuation of these hours had to be determined to ensure a correct implementation in the business model. This also meant making an estimation of productivity of the workforce. To make sure the correct values were used, these values have remained variable, thus easy to alter in the later negotiation stages. By doing this, the model is not only future-proof for the current joint venture, but also applicable in future joint venture negotiations, for different countries.

5.3. Effect of the Tool

To determine the effect of the tool on the joint venture negotiation process, first a baseline had to be determined. The baseline was determined based on the total time needed to construct a business model for a joint venture by the host company, in normal operations. To ensure a reliable value, the business model was changed per variable, measuring the time needed for each alteration. These values could then be compared to the speed with which the constructed tool was able to determine the business model, which shows the improvement after implementation. As added value, the difference in accuracy between a manually constructed business model and a business model constructed by the tool could be determined, which indicates how the tool influences the errors in a joint venture negotiation process.

In addition, interviews were conducted with several, knowledgeable individuals with experience in the joint venture negotiation process. These semi-structured interviews give qualitative data regarding the implementation and relevance of the tool in a joint venture process. This method was added as the implementation of the tool should be beneficial in terms of timesaving. It could, however, be less relevant if the financial negotiations are not the bottle neck of the negotiation process as a whole.

To analyse the answers of the interviews, the interviews were recorded and transcribed, after which the answers were put into a table per question. Based on this table, an average answer to the question could be made, based on which a conclusion was made.

To analyse the answers, a table was used. This table consisted of three columns, one regarding the interview question topic, and two regarding the answers of both interviewees respectively. The basic table used is pictured in Table 1.

Question Topic	Answer interview 1	Answer Interview 2
Question 1	Answer	Answer

Table 1: Base of interview analysis.

The information given in the table was summarised and answers analysed.

As all interviewees were of Dutch nationality, the interviews were conducted in Dutch. This means the answers to the interview questions were translated before being used in the research. The interview questions used can be found in Appendix 2.

5.4. Moment of implementation

After the construction of the tool, the moment of implementation could be determined. This tool focuses on the specific terms of the joint venture deal, which, as shown in Figure 4, and explained in Chapter 4, is generally a phase into which the negotiation is rushed. As this is not the desired method, the tool should not be used too early. In addition, the parameters needed to construct the tool would not be available until later in the negotiation process, as parameters specific to culture could only be determined after determining variables such as location.

To determine the optimal moment of implementation, the theoretical data gathered will be combined with data from semi structured interviews with involved parties. This data, then, will be qualitative in nature. The negotiation of the joint venture will be divided into stages, after which the preferred stage will be chosen by individuals involved in the negotiation process. Based on the combination of gathered data from earlier, external research and the outcome of the interviews, the optimal moment of implementation of the tool could be determined.

The analysis of the moment of implementation was conducted in the same way as described in chapter 5.4.

6. Validation

In chapter 3 and 4, there have been several assumptions regarding the abilities of the involved people of a joint venture negotiation process. These assumptions included the construction of a financial model, ability to value organisations, ability to value synergies and strategy development. To validate these assumptions, and to bridge the gap between theory and practice, the conducted interviews included several questions regarding the expertise of the involved parties, the challenges of the negotiation process and possible bottlenecks in the operations. These questions were asked in first in the interviews, as they were generally easy to answer and could warm up the interviewee for further questions.

Another benefit of these initial questions was the ability to estimate whether an interviewee was suitable for the interview. By asking these questions in the early stages of the interviews, the researcher was able to determine that one interviewee was not sufficiently proficient in the subject matter to significantly influence the research. Based on this knowledge, the interview was discarded.

The first three interview questions asked regarded the interviewee's involvement, experience and expertise in the JV processes. These questions were included to determine the level of knowledge the interviewee possessed regarding the topic of this research. Though experience levels varied it was determined that interviewees 1 and 2 were suitable for this study, whereas interviewee 3 was not suitable. This decision was made based on the limited experience of the interviewee and the lack of involvement in negotiation processes.

Results of these first questions indicated that people involved in JV processes can have very different expertise regarding the JV, whilst remaining relevant. Furthermore, the interviewees do not mention the financial negotiations as a particularly difficult aspect of the negotiations, rather focusing on the business culture and the alignment of involved parties.

Question Subject	Answer Interview 1	Answer Interview 2	Answer Interview 3
JV experience	Several national JV, now in the process with an international JV. Generally existing products.	Several international JV. Both existing products and new products.	Two international JV. Both existing products.
Negotiation experience	Always involved in JV negotiations.	Involved in negotiations several times, but not always.	No involvement in JV negotiations.
Expertise	Dealmaker, getting everyone together and single-minded.	Operations, technical knowledge of the product, production	Implementation of the chosen strategy on plant-level.

	Also, necessary financial analysis and negotiations with partners.	process and possibilities with the product.	
Most challenging aspects	Management of involved people and their egos. Taking involved parties from thinking in “I” to thinking in “we”.	Navigating the local culture in international JV’s.	Persuasion of internal staff to follow new direction.

7. Results

This chapter will show the results of the conducted research. Firstly, the tool is explained. Starting with the inputs, then the P&L, balance sheet, cash flow statement and the ratios. Furthermore, the results of the interviews are shown, divided into the results regarding the effect of the tool on the joint venture negotiation process, and the optimal point of implementation of the tool in the joint venture negotiation process.

7.1. Inputs

The inputs necessary for the tool included a detailed and accurate BOM, a calculation of labour costs, a forecast sheet for the upcoming 5 years and an input sheet, in which all changes could be made.

7.1.1. Bill of Materials

The joint venture regarded in this research is based on three existing products, which will be marketed in a new market. Due to these characteristics, it was possible to determine the BOM for all three products, as there have been products built and sold. For the two newest products, introduced late last year and early this year, it was not yet possible to determine the prices of all specific parts needed. This, however, was no issue, as the total BOM was known, so these products could also be used in the model.

For the oldest product, which has been in production for several years now, it was possible to create a detailed BOM, with prices of materials per category. As the product is constructed out of over 1000 individual parts, it was not possible, nor necessary, to include all individual parts in the equation. The BOM, in its most detailed form, was included in the model as can be seen in Table 2, with the total BOM coming to €273.315,24 for product A. Product B and C have a BOM of €500.000,= and €55.000,= respectively.

Material price per unit		
GAPL	00 Vehicle complete	€ 79,21
GAPL	01 Power unit	€ 36.140,18
GAPL	03 Fuel system	€ 7.916,31
GAPL	05 Coolingsystem	€ 3.820,46
GAPL	06 Electrical installation	€ 27.017,83
GAPL	07 Clutch/Transmission	€ 10.810,80
GAPL	08 Driveshaft/Final drive	€ 18.861,55
GAPL	09 Chassis	€ 26.725,89
GAPL	10 Suspension	€ 13.916,73
GAPL	12 Brake system	€ 6.439,04
GAPL	12 Braking system	€ 66,07
GAPL	14 Steering system	€ 11.767,07
GAPL	18 Frame, hull	€ 20,35
GAPL	18 Frame/hull	€ 84.101,36
GAPL	20 Lifting, Towing and transportequipment	€ 3.385,14
GAPL	23 Additional equipment	€ 271,08
GAPL	25 Heating, ventilation and airconditioning	€ 3.857,81
GAPL	33 Accessory mounts	€ 11.672,34
GAPL	Equipment	€ 48,24
GAPL	Library	€ 3.944,90
GAPL	NO GAPL ID	€ 1.909,98
GAPL	(leeg)	€ 424,80
GAPL	Tbd.	€ 118,12
		€ 273.315,24

Table 2: BOM of product A

7.1.2. Labour Costs and Capacity

To accurately calculate total cost of the products, labour costs and factory capacity needed to be determined. These variables could not be hard coded into the model, as cultural differences and personal preferences could mean there should be more, or fewer shifts or hours per shift. For the factory capacity, changes can include the percentage of warehousing needed for smooth operations. This could differ, as logistics to the host country will vary compared to the current logistics path.

As the products regarded in this research are already being produced, it was relatively easy to determine the space necessary of the production process. Though the values are changeable, to make the model more adaptable, the space needed for the production process as used in the model matches the current space needed for the production process. For the warehousing, a percentage of 50% of the production space was used. Again, this number was made changeable, as optimisation of the supply chain could mean less warehousing space is needed in the future. Furthermore, canteen space was included for employees to have their break. For this space, a percentage of 15% of the production space was used, again based on the current production process and made changeable. The calculation of the total needed space per production line can be seen in Table 3.

DESCRIPTION	PRODUCT A
WORKSTATION (WIDHT) (M)	5
WORKSTATION (LENGTH), PICKED GOODS INCLUDED (M)	10
LOGISTICS PATH (WIDHT) (M)	6
SIZE OF WORKSTATION (M²)	80
NUMBER OF WORKSTATION IN PRODUCTION LINE (PHASES)	10
SIZE OF PRODUCTION LINE (M²)	800
WAREHOUSE COMPARED TO PRODUCTION LINE	50,0%
SIZE OF WAREHOUSE (M²)	400,00
CANTEEN COMPARED TO PRODUCTION LINE	15%
SIZE OF CANTEEN (M²)	120,00
TOTAL ASSEMBLY FACILITY PER PRODUCTION LINE (M²)	1.320

Table 3: Calculation of needed space per production line.

The output of the available production lines is calculated, and important for the labour and capacity calculation. The output of the production lines gives an indication of the number of products to be built per year, which can be aligned with the demand of the products per year. The variables necessary to calculate the output of the production lines are included in the model as shown in Table 4. The values chosen for this calculation are based on the chosen inputs from the CEO and shareholders, combined with the current situation of the production lines in the Netherlands. This table is a very important link between the number of products needed and the amount of labour and space necessary to achieve this.

DESCRIPTION	PRODUCT A
ASSEMBLY TIME / PRODUCT (H)	320,00
ASSEMBLY TIME / WORKSTATION (H)	32,00
NUMBER OF SHIFTS (#)	3,00
HOURS PER WORKING DAY (H)	24,00
WORKING DAY / WEEK (D)	5,00
PRODUCTIVITY	80%
FTE / WORKSTATION (#)	2,00
CYCLE PER WORKSTATION (D)	0,83
CYCLE PER PRODUCTION LINE (D)	8,33
PRODUCTS PER PRODUCTION LINE / WEEK (W)	6,00
PRODUCTS PER PRODUCTION LINE / YEAR (Y)	312,00
PRODUCTION LINES	2,00
PRODUCTS PER AVAILABLE PRODUCTION LINES / YEAR (Y)	624,00

Table 4: Number of products for the available production lines.

Calculation of the labour costs meant the different categories of labour needed to be determined. This led to a division between mechanics, logistics employees, supply chain employees and quality employees. These four categories of employees all have a role directly related to the product. The number of employees necessary to produce the product were filled in based on the current operations in the Netherlands. These numbers, however, can be altered, which directly calculates all relevant costs based on them. De division of labour was included in the model as shown in Table 5.

DESCRIPTION	PRODUCT A
MECHANICS - EMPLOYEES PER WORKSTATION	2,00
MECHANICS - TOTAL EMPLOYEES	20,00
LOGISTICS - EMPLOYEES PER WORKSTATION	0,50
LOGISTICS - TOTAL EMPLOYEES	5,00
SUPPLY CHAIN - EMPLOYEES PER PRODUCTION LINE	2,50
SUPPLY CHAIN - TOTAL EMPLOYEES	2,50
QUALITY - EMPLOYEES PER WORKSTATION	0,50
QUALITY - TOTAL EMPLOYEES	5,00

Table 5: Division of labour

Another relevant input for the labour costs is the number of shifts the JV will use in operations. The number of shifts necessary vary per product, based on popularity of the product. Too many shifts, spread over too many production lines will result in inefficient production if the demand is too low. This number, then, was made variable, so it could be altered after the exact number of products ordered is known. Furthermore, adjustability enables the JV partners to easily calculate the optimal values, as all calculations based on the values are automated.

For the model, the assumption was made that not all hours spent in the production process would be productive. The estimated productivity, based on culture of the host country and the numbers achieved by the current production process, is 80%. Again, this number is made variable, and all calculations based on this value will vary if the number is changed. Based on the productivity, number of shifts and the number of employees necessary for each stage and category of the production process, the total number of employees per production line can be determined. This overview was included in the model as shown in Table 6. Multiplying this number by the chosen number of production lines, gives the total number of employees, based on which the total cost of labour can be calculated.

SHIFTS	3,00
PRODUCTIVITY	80,0%
MECHANICS	75,00
LOGISTICS	18,75
SUPPLY CHAIN	9,38
QUALITY	18,75

PRODUCTION LINES	2,00
MECHANICS	150,00
LOGISTICS	37,50
SUPPLY CHAIN	18,75
QUALITY	37,50

Table 6: Calculation of needed employees

7.1.3. Five year Forecast

In determining a future financial business model, as is the purpose of this tool, the changes in costs, price, productivity, and efficiency have to be considered. To achieve this, a five-year forecast was included in the model, with the goal of giving a clear overview of the indexation of the BOM and sales price of the products, as well as expected changes in other costs.

An important aspect to consider is the scaling of the JV for which the tool is constructed. As the products are large and complex, the assembly will be scaled over time, with initial production in the Netherlands, after which the production is changed over to the host country. Table 7 shows the inputs for product A and their five-year future projection.

	BASIS	2024	2025	2026	2027	2028	2029
INDEXATION		0	1	2	3	4	5
INDEXATION FACTOR			2,5%	2,5%	2,5%	2,5%	2,5%
RENTAL PRICE (M2/MONTH)	14,00	14,00	14,35	14,71	15,08	15,45	15,84
SALES PRICE	315.000,00	315.000	322.875	330.947	339.221	347.701	356.394
BOM		273.315	280.148	287.152	294.331	301.689	309.231
SALES COMMISSION		5,0%	5,0%	5,0%	5,0%	5,0%	5,0%
LICENSE FEE	10%	31.500	32.288	33.095	33.922	34.770	35.639
LOCAL SUPPLY CHAIN DISCOUNT		-15,0%	-15,0%	-15,0%	-15,0%	-15,0%	-15,0%
COST REDUCTION		-15,0%	-25,0%	-27,5%	-30,0%	-30,0%	-30,0%
SHARE LOCAL / DUTCH SUPPLY CHAIN		25,0%	35,0%	45,0%	55,0%	65,0%	75,0%
CORRECTED BOM		223.606	199.080	194.133	189.034	190.592	192.110
LOGISTICS / PRODUCT		3.750	3.331	2.819	2.306	1.794	1.281
WARRANTY		2,0%	2,0%	2,0%	2,0%	2,0%	2,0%
UNFORESEEN		5,0%	4,0%	3,0%	2,0%	2,0%	2,0%
FULL CAPACITY		1.300,00					

Table 7: Five-year future projection product A.

As can be seen, the BOM and sales price are both expected to increase with 2,5% per year, based on data from previous years. The licensing fee, which is an important source of income for the Dutch JV partner, is set at 10% of the sales price, and will remain 10% for the foreseeable future. This is also the case for the sales commission.

Furthermore, there is an expected cost reduction due to local supply chains regarded in the model. This cost reduction is based on the lower wages and material cost in the host country of the JV and is expected to be around 15%. This, however, could prove different.

As mentioned, the JV will be scaling their production over time. The ratio for this is shown as the “Share local / Dutch supply chain” line of the table. The assembly is expected to shift to the host country with an expected 10% per year, starting with 25%. Of course, this scaling can be quicker or slower, which is why the values are variable for this calculation. Lastly, the cost reduction of the BOM is regarded. Though the product has been in production for several years, there have recently been large investments and processes to reduce the BOM by using different or altered parts in the assembly process. This cost reduction is expected to be 15%-30% over the next five years. Based on the scaling, the discount from using the local supply chain and the cost reduction, the adjusted BOM for each product can be determined.

The logistics of each product will decrease over time due to the scaling of the assembly operations, which means the products do not have to be shipped from the Netherlands. The warranty of the product remains at 2% each year, and the unforeseen costs decrease over time as the operations of the JV mature.

An interesting finding of this calculation is that the adjusted BOM is expected to decrease over the first 4 years of the JV, due to the cost reduction, scaling and local supply chain discounts.

7.1.4. Input Sheet

To enable the tool to work, some necessary hard inputs were included. These inputs were structured to be easy to change and could even be automated for future use. Firstly, the country could be selected. The year and month of the JV signing was included to function as a starting data for the JV business model calculations. The set-up time was included, as the nature of the assembly process means a longer set-up process. This process was estimated to take around 12 months but could be altered for future use of the model. The ramp-up period regards the amount of time between the signing and the operation running at full calculated capacity. For this joint venture, this is estimated to take up to 2 years. The frequency of the ramp-up period indicates the

number of months between each ramp-up step. In this case, the operations are scaled once every 3 months. The inputs and their values are shown in Table 8.

	T0
COUNTRY	Oman
YEAR	2024
MONTH OF SIGNING (M)	6
SET-UP SUPPLY CHAIN & LOGISTICS (M)	12
RAMP-UP PERIOD (M)	21
FREQUENCY RAMP-UP (M)	3

Table 8: Input sheet.

7.2. Business model Forecast

The forecast sheet of the business model tool is the most important sheet of the tool. This sheet calculates the future financial business model for the joint venture based on the information it is given by the mentioned inputs. This financial business model, in this case, will be communicated with the partner with whom the joint venture will be set up. Accuracy, then, is essential.

The financial business model is divided into four categories. The P&L, balance sheet, cash flow statement and relevant ratios. In the sub-chapters, the tables will be condensed to show only the yearly data. This is done to ensure readability.

7.2.1. Profit and Loss statement

The profit and loss statement was constructed following the calculations determined in chapter 5.2. As can be seen, the first year (2024) of the P&L statement remains 0, due to the mentioned ramp-up period of 21 months. In 2025, the JV expects to produce 51 products, resulting €16.527.164,= in sales. The total COGS for 2025 would be €13.578.174,=, resulting in a gross profit of €2.948.990,=. The chosen costs for employees and the facility are determined based on full capacity. The facility costs and employee costs are determined based on the needed employees and space per product. In this calculation, the employee and square meter count are rounded to the closest, higher full number, as there cannot be a fraction of an employee.

The results of the operations, as shown by the model, are expected to be negative for 2024 and 2025 due to the low number of produced products. After this startup period, the results are expected to be positive. The compacted output of the P&L calculations is shown in Table 9.

SALES A	557.837.214	100,0%	-	0,0%	16.527.164	100,0%	101.642.059	100,0%	187.758.573	100,0%	251.909.418	100,0%
BOM A	312.527.494	56,0%	-	0,0%	10.190.421	61,7%	59.622.969	58,7%	104.630.232	55,7%	138.083.872	54,8%
LICENSE FEE A	55.783.721	10,0%	-	0,0%	1.652.716	10,0%	10.164.206	10,0%	18.775.857	10,0%	25.190.942	10,0%
SALES COMMISSION	27.891.861	5,0%	-	0,0%	826.358	5,0%	5.082.103	5,0%	9.387.929	5,0%	12.595.471	5,0%
LOGISTICS A	3.612.308	0,6%	-	0,0%	170.518	1,0%	865.709	0,9%	1.276.509	0,7%	1.299.572	0,5%
WARRANTY A	11.156.744	2,0%	-	0,0%	330.543	2,0%	2.032.841	2,0%	3.755.171	2,0%	5.038.188	2,0%
UNFORESEEN A	7.050.588	1,3%	-	0,0%	407.617	2,5%	1.788.689	1,8%	2.092.605	1,1%	2.761.677	1,1%
TOTAL COST OF GOODS SOLD A	418.022.716	74,9%	-	0,0%	13.578.174	82,2%	79.556.517	78,3%	139.918.303	74,5%	184.969.722	73,4%
GROSS PROFIT	139.814.498	25,1%	-	0,0%	2.948.990	17,8%	22.085.542	21,7%	47.840.269	25,5%	66.939.696	26,6%
CONTRIBUTION MARGIN	25,1%	-	-	17,8%	21,7%	25,5%	26,6%					
FACILITY - DIRECT A	4.512.097	0,8%	250.320	0,0%	1.026.312	6,2%	1.051.970	1,0%	1.078.269	0,6%	1.105.226	0,4%
EMPLOYEES - DIRECT A	31.180.108	5,6%	-	0,0%	2.446.429	14,8%	6.396.406	6,3%	10.391.754	5,5%	11.945.519	4,7%
OPERATIONAL EXPENSES - DIRECT A	35.692.204	6,4%	250.320	0,0%	3.472.741	21,0%	7.448.376	7,3%	11.470.023	6,1%	13.050.745	5,2%
RESULT FROM OPERATION	104.122.294	18,7%	(250.320)	0,0%	(523.750)	-3,2%	14.637.166	14,4%	36.370.247	19,4%	53.888.952	21,4%
	18,7%	-100,0%	-100,0%	-3,2%	14,4%	19,4%	21,4%					

Table 9: Profit and Loss statement output.

7.2.2. Cash Flow Statement

The outputs of the cash flow statement were calculated using the formulas in chapter 5.2 and based on the relevant input described in chapter 6.1. The cash flow statement shows positive cash flows for all years from 2025 onwards, as this is where operations are expected to begin. Net cashflow per year are -€250.320,= for 2024, €9.483.642,= for 2025, €26.949.721,= for 2026, €42.734.689,= for 2027 and €63.192.660,= for 2028.

The model indicates a positive net cashflow for the JV from the first full year of operations. This indicates the JV should perform very well, if it meets expectations, in turn creating great value to the JV partners. The condensed cash flow statement is shown in Table 10.

CUMULATIVE SALES	557.837.214	-	16.527.164	118.169.223	305.927.796	557.837.214
SALES INVOICE	630.808.801	-	36.290.898	125.287.955	199.111.860	270.118.088
SALES INVOICE PAYMENT	606.781.571	-	30.690.025	117.524.778	194.946.687	263.620.080
PURCHASE INVOICE BOM	346.617.383	-	19.354.692	70.563.629	110.083.682	146.615.379
PURCHASE INVOICE LICENSE FEE	63.080.880	-	3.629.090	12.528.795	19.911.186	27.011.809
PURCHASE INVOICE SALES COMMISSION	31.540.440	-	1.814.545	6.264.398	9.955.593	13.505.904
PURCHASE INVOICE LOGISTICS	3.489.885	-	132.625	807.412	1.261.999	1.287.848
PURCHASE INVOICE WARRANTY	6.131.579	-	27.545	560.546	1.976.227	3.567.260
PURCHASE INVOICE UNFORESEEN	6.790.430	-	317.035	1.680.527	2.109.875	2.682.992
TOTAL PURCHASE INVOICES RECEIVED	457.650.596	-	25.275.533	92.405.307	145.298.563	194.671.193
PURCHASE INVOICE PAYMENT BOM	320.425.469	-	12.492.208	62.107.069	105.870.429	139.955.784
PURCHASE INVOICE PAYMENT LICENSE FEE	60.678.157	-	3.069.003	11.752.478	19.494.669	26.362.008
PURCHASE INVOICE PAYMENT SALES COMMISSION	30.339.079	-	1.534.501	5.876.239	9.747.334	13.181.004
PURCHASE INVOICE PAYMENT LOGISTICS	3.612.308	-	170.518	865.709	1.276.509	1.299.572
PURCHASE INVOICE PAYMENT WARRANTY	6.873.374	-	59.796	736.498	2.260.430	3.816.650
PURCHASE INVOICE PAYMENT UNFORESEEN	7.050.588	-	407.617	1.788.689	2.092.605	2.761.677
TOTAL PURCHASE INVOICES PAID	428.978.976	-	17.733.643	83.126.682	140.741.976	187.376.675
PAYMENT FACILITY	4.261.777	250.320	1.026.312	1.051.970	1.078.269	1.105.226
PAYMENT EMPLOYEES	31.180.108	-	2.446.429	6.396.406	10.391.754	11.945.519
TOTAL PAYMENT PAID	35.441.884	250.320	3.472.741	7.448.376	11.470.023	13.050.745
NET CASHFLOW	142.360.711	(250.320)	9.483.642	26.949.721	42.734.689	63.192.660

Table 10: Cash Flow Statement output.

7.2.3. Balance sheet

The relevant values in the balance sheet were calculated using the formulas from chapter 5.2 and incorporates data calculated in the P&L and cash flow statement. Due to the forecasting nature of the model, the balance sheet is more difficult to read than usual. However, it shows a positive equity from 2026 onwards (indicated by a negative number in the model). A positive equity value is an indication of good financial performance, and it being in the second full year of operations is

a good perspective. To ensure the balance sheet is constructed properly, a check value is included to determine whether both sides of the balance sheet are equal. Inequality would mean the balance sheet is not all-including, or there are inconsistencies in the calculations. For this model, the check value indicates 0, which means the balance sheet is properly calculated. A condensed balance sheet is shown in Table 11.

DEFERRED REVENUES	-	(19.763.734)	(43.409.629)	(54.762.917)	(72.971.587)
INVENTORY	-	9.035.797	19.809.998	25.266.209	33.707.307
PREPAID EXPENSES	-	2.964.560	6.511.444	8.214.438	10.945.738
PROVISION	-	(302.998)	(1.775.293)	(3.554.238)	(5.025.165)
CASH IN HAND	(250.320)	9.233.322	36.183.042	78.917.731	142.110.391
TRADE RECEIVABLES	-	5.600.872	13.364.048	17.529.222	24.027.230
TRADE PAYABLES	-	(7.541.890)	(16.820.515)	(21.377.103)	(28.671.621)
EQUITY	250.320	774.070	(13.863.095)	(50.233.342)	(104.122.294)
CHECK	-	0	-	(0)	-

Table 11: Balance sheet output.

7.2.4. Ratios

The relevance of the used ratios is explained in chapter 5.2, as well as the calculation of each ratio. A good solvency ratio would be a percentage over 20%. For the JV calculated in the model, this is the case from the year 2027 onwards, with a 18.3% solvency ratio for 2026, which is very close to the threshold.

A good current ratio is considered to be from 1.2 to 2, meaning an organisation would have twice the assets compared to liabilities. For the model, the current ratio is above 1.2 from the year 2026 onwards, with a ratio of close to 1 (0,98) in 2025. This means the JV should be able to cover almost all liabilities with its assets from the very first year of operations.

A good quick ratio is considered to be any ratio over 1:1, or 1. For the JV calculated in the model, this is the case from the year 2027 onwards, with 0,93 for the year 2026. This means the organisation is expected to be able to cover almost all current liabilities with liquid assets.

All ratios and their development over the years are shown in Table 12.

TOTAL ASSETS	(250.320)	26.834.551	75.868.533	129.927.599	210.790.667
TOTAL LIABILITIES	250.320	(26.834.551)	(75.868.533)	(129.927.599)	(210.790.667)
SOLVENCY	100,0%	-2,9%	18,3%	38,7%	49,4%
CURRENT RATIO	-	0,98	1,26	1,71	2,07
QUICK RATIO	-	0,65	0,93	1,37	1,74

Table 12: Ratios

7.3. Effect of the Tool

Determining the effect of the tool was one of the main purposes of this study, which is why a large portion of the interview was dedicated to answering this question. The answers given by the interviewees indicated that the implementation of the tool in financial negotiation processes for joint ventures would be very beneficial, both in accuracy and time. The current process, however, was not seen as unnecessarily long, with the main argument of accuracy as a reason. Both interviewees did mention that acceleration of the process would be beneficial, and the tool would have a large role in the JV negotiation process if implemented.

To determine the time-savings of the financial business model tool, the speed of the tool was compared to the perceived speed of a manual construction of a financial business model. Before implementation of the tool, this process was estimated to take up to three weeks by involved parties. In this process, the financial business model would be prone to error due to incorrect calculations or misalignment in assumptions. The financial business model tool, once set up, can calculate all relevant information instantly. In turn saving up to three weeks of negotiation time.

Question Subject	Answer Interview 1	Answer Interview 2
Unnecessary JV process length	The process is lengthy. Every day extra gives an opportunity for doubts, renegotiations and alterations in opinions. A plan does not have to take a lot of time, it is the process afterwards that takes the most. It is challenging to find the right people to finalise a project, rather than just talking about it.	Difficult to say whether they were too long. These processes require high levels of attention and detail. In this process, the time scale is less important. Accuracy is leading. One exception was in case of market expansion in a new market. Extra DD was needed in this case, since neither party knew the market well enough. This process could have been quicker.
Reduction of JV process length	A quicker process is always better. The world is changing all the time. A longer process could mean the idea gets overtaken by time.	In theory, a quicker process should be better, but this must not negatively influence the level of detail in the process. Accelerating the process is always beneficial, as people are led by emotion. A quicker process should build more trust between involved parties.
Amount of time needed for financial negotiations	The financial negotiations of a JV can be divided into two. Firstly, there is the division of resources between parties, and the accompanying compensations. This stage is not difficult and can usually be determined in a week or so.	It is difficult to answer this question. The financials of a JV are considered in every step of the negotiation process. And so they should be, they are essential to the process. The main goal of the JV influences this too. The more technical the JV is, the more important the financials are.

	<p>Second part, which is the financial performance of the JV, is much more complex and requires high levels of inclusion and a lot of time. Not taking this step seriously, or failing to construct a good business model, can lead to failure of JV. So, the initial stage is quite quick, but the later stages can be very time consuming.</p>	
<p>Amount of focus on the financial negotiations</p>	<p>The financial negotiations in a JV process are essential to the success of the JV. So yes, there is a lot of focus on these steps, but this is necessary. There is not too much focus on the financials.</p>	<p>There is a lot of focus on the financial negotiations, and there should be. In my opinion, there can be more focus on this process.</p> <p>It would be very beneficial if the financials could include more in-depth analysis based on which decisions could be made. From experience there are too many cases where the involved parties shoot from the hip with a value, which they later try to justify. This is starting at the wrong end of the negotiations and should be approached differently. Gather data first, analyse, then make a decision.</p>
<p>Using the tool</p>	<p>Yes, I see the relevance of the tool and its use. The implementation would be most applicable for organisations which start multiple joint ventures based on the same basic product portfolio. This tool could be a perfect base for a standardised process. I would say it could have a leading role in the process.</p>	<p>Every tool, model and analysis will always be supporting to the decision-making processes. But I do see use for the tool. Analysis of the business model in this stage would be very insightful in the JV process.</p>

7.4. Implementation timing

The optimal moment of implementation of the tool was, in theory, rather complex. Yet, it could be summarised in one question in the interview. Both interviewees had a different view on the exact moment of implementation, but both indicated that early application would be most beneficial. The only main difference in views was that interviewee 1 would prefer implementation after the DD stage is completed, whereas interviewee 2 saw more use in the tool before the DD stage.

Question Subject	Answer Interview 1	Answer Interview 2
Moment of implementation	The earlier the tool can be used, the better. The most important aspect, in this case, is the area in which the JV will be based. If this is not known, the tool is not very useful. This would mean there would be too many alterations in a later stage. Yes, the tool would make this easier, but in those cases it would be better to wait with the implementation until more is known.	This tool should be used before the DD stage of the negotiation process. In my view, this tool gives a clear indication of how the JV should be structured and how it would perform. This is very relevant information when looking for a potential partner. So, why not have it ready before then? If the products are existing, most of the financial business model can be constructed already, without knowing the other parties.

7.5. Additional findings

In addition to findings regarding the use, implementation and timing of the tool, there were findings regarding potential drawbacks, such as risks regarding the automation as implied by the tool. In addition, interesting views regarding the tool were uncovered, such as the complex balance a tool should navigate, to maintain relevance and brought implementation possibilities. These additional findings were discovered in the semi-structured interviews.

In the first interview, there were concerns regarding the implementation of the tool. According to the interviewee, automation (or dumbing down the process) sometimes leads to situations where involved parties no longer think critically about the results of the analysis. This, the interviewee mentions, could lead to very large mistakes if not caught early.

In addition, the second interview uncovered that a tool would be very nice to have, but difficult to get right. This, he mentions, is due to the fact that a tool is not useful if it is too general. This would not give information specific enough to apply. If a tool would be very specific, however, it would not be very useful for brought applications. The combination of these two possibilities creates a fine line on which the tool has to function. Which, the interviewee expects, would take a lot of quantitative research.

Another finding was the large difference between definitions of the “financial negotiation process” of a JV. This was uncovered in the first interview. Some may interpret this process as the division of the resources, investments, and potential compensations of all involved parties. For this study, however, this process meant the construction of a financial business model.

8. Discussion

This chapter will answer the sub-questions of this research using a combination of the theoretical information sources and explained in chapter 4, and the results of the conducted research as discussed in chapter 6. The sub-questions will be answered per question, after which the perceived relevance of the tool is discussed, i.e., whether the tool should be used in the joint venture negotiation process, and how this should be done.

8.1. Construction of the Tool

The first sub-question this study is aimed to answer is: “How can a financial business model tool for an international joint venture be constructed?”.

The full construction of the tool used in this study is described, in detail, in chapter 6. In constructing this tool, however, there were several new insights which were unforeseen.

In essence, the tool does not include more than a normal, manually constructed financial business model, just automated. A surprising finding, then, was the fact that the host organisation, for whom the tool is made, struggled to gather all relevant information needed for the model, and implement this information into a financial business model. This finding was an important part in understanding the struggles the organisation faced before the tool was constructed in making the financial business model, in which, for example, capacity, FTE, assembly speed and demand were not aligned.

Because the tool was constructed, the host organisation was forced to gather the relevant information needed for the financial business model, which seemed to be incomplete at the time of starting. This must have helped the organisation’s understanding of the current business model and the JV.

8.2. Moment of implementation

The second sub-question this study aimed to answer is: “In which stage of the joint venture negotiation process should a financial business model tool be implemented?”.

To determine in which stage of the joint venture negotiation process the financial business model should be implemented, first the stages of the joint venture negotiation had to be determined. As shown in chapter 4.4, the JV negotiation process generally follows a path of four steps: Business case and internal alignment, business model and structure, specific deal terms and launch and operating model. These stages were visualised in Figure 4, which is copied below.

Joint-venture planners spend more time on phases of negotiation that create less value.

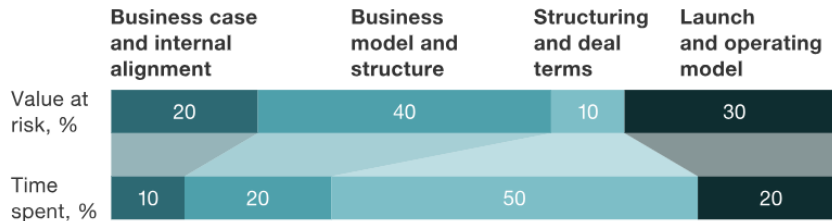


Figure 4: Misalignment of exposed risk and time spent in negotiation stages (Rinaudo & Roswig, 2016) (copy).

In addition, theoretical research argued the financial negotiations should be in the later stages of the JV negotiation process (Rinaudo & Roswig, 2016). Therefore, based on theoretical research, the financial business model tool, as constructed for this study, should be implemented in the later stages of the business model and structure phase of the negotiations, or early stages of the structuring and deal terms phase.

However, theory also dictates that less than a quarter of companies have a structured playbook for their JV processes, which could mean the phases of this process run parallel to each other. This view was confirmed in the conducted interviews, which indicated that the financial negotiations, specifically, are intertwined into every phase of the process, which makes determining a structure very difficult.

The interviewees also indicate that the financial business model should be determined as early as possible, under the condition that the necessary financial information is known. They argue that the DD of the negotiation process can be supported by a financial business model as it shows a financial structure, which should gain the trust of involved parties. Theory, on the other hand, argues the trust of partners should be gained through extensive DD, without going into financials, as financials have a large focus in later stages. In this, then, there is a difference between theoretical and practical views.

To complicate the study further, it was determined through theoretical and practical research that the exact optimal moment for the implementation of the financial business model tool is impossible to generalise for every JV. Arguments for this are the fact that every JV is different in purpose. Factors like existing or new products, host country, culture, existing or new markets and

more all influence the JV negotiation process. This could also be a reason for the absence of a fixed joint venture playbook.

Where the interviews and theoretical research overlapped was that the financial business model should not be constructed without all relevant and necessary inputs. If a financial business model is based on assumptions rather than facts, the model will need too many alterations in later stages, which is perceived to be much more difficult than initial construction. In this case, it is worthwhile to wait for the inputs to become known, and then implement a financial business model. To answer this sub-question then: The financial business model tool should be implemented as soon as all necessary and relevant inputs are known. In case the tool would encounter fewer than the required inputs, the function will be limited. In this case, estimations would be required.

8.3. Impact on the total joint venture negotiation time

The third question this study aimed to answer is: “Would the financial business model tool impact the total negotiation time needed, and if so, by how much?”

The total negotiation time needed for a JV negotiation varies widely. It usually ranges from six months up to one year. According to Rinaudo and Roswig (2016), the financial negotiations take up to 50% of the total negotiation time. This would mean between three and six months. This, however, includes all financial negotiations, which range beyond the construction of the financial business model. Furthermore, interviewees mentioned the financial negotiations are intertwined to every phase of the process. According to these interviews, the manual construction of a financial business model for a joint venture usually takes around three weeks. Every change after this, takes a further three weeks. The initial construction of the tool takes longer due to the complex nature of a financial business model. The changes take longer because the involved people of a JV negotiation process usually have additional responsibilities beyond the JV process.

The construction of the tool used in this study took four weeks to build. This is longer than a manual construction, as the tool is more complex to construct than the manual business model. However, as the tool is automated and calculations are based on data rather than assumptions, the tool should produce a business model with fewer mistakes than a manual business model.

Higher accuracy in the financial business model leads to fewer alterations in later stages of the negotiation process. Furthermore, if alterations have to be made, the tool can make them instantly by changing one of the inputs. This in turn saves up to three weeks.

Where this tool would save the most time is if the host organisation, for which the tool was constructed, would enter in to more than one JV in the near future, with the same product portfolio, in different countries. In this case, the parameters of one country could be changed into those of another country, based on which the new financial business model would be calculated. This automation would save significant time in the negotiation process, which is preferable according to the conducted interviews.

8.4. How, when and for whom is the tool beneficial?

The fourth and last sub-question this study aimed to answer is: “Would the implementation of the financial business model tool be beneficial to the joint venture negotiation process?”

There are several different ways the financial business model tool as constructed for this study impacts the joint venture negotiation process. Firstly, as mentioned, the tool positively influences the amount of time needed for the joint venture negotiations. Time savings, according to the interviews, are beneficial in the joint venture process, as a lengthy process opens the possibility that the JV gets overtaken by time.

Secondly, the implementation of the tool to construct a financial business model means the business model will be based real input data, rather than assumptions, with which the calculations are then made. By using actual data instead, the financial business model constructed by the tool has a higher accuracy level. This higher accuracy level, in turn, means there are fewer alterations to be made in the future, which again saves time.

The increased accuracy of the tool does not only result in time benefits. More accurate data will also build trust between all involved partners. Trust, according to theoretical and practical research, is the main cornerstone of any JV, merger, or acquisition. Having a method to increase this trust, then, is seen as very beneficial in a JV negotiation.

Lastly, the implementation of the tool would mean that the future alterations to be made to the model would take less time, as they can be done instantly. Even though the number of changes should be reduced due to the increased accuracy, there are also significant time benefits.

The possibility of instant changes enables the involved parties to achieve one very important thing: Change the financial business model in real time. This characteristic means that the financial business model can be changed during negotiation meetings, which is very beneficial in case of international joint ventures. In these joint ventures, meetings between partners are often difficult to schedule, which means lengthy change processes seriously impact the negotiation pace. The ability to make changes instantly in a meeting, could reduce the number of necessary

meetings. This, depending on the nature of the JV, could save thousands of euros, a lot of time and gain a lot of trust.

Combining these three arguments for the benefits of a financial business model tool, makes that the study indicates that the implementation of the financial business model tool is beneficial to the joint venture negotiation process.

9. Conclusion

This chapter will answer the main research question: “*To what extent does the implementation of a financial business model tool impact the negotiation process of an international joint venture?*” based on all gathered theoretical information as discussed in chapter 4, the results of the research conducted, as discussed in chapter 6, and the answers to the sub-questions as discussed in chapter 7.

The sub-questions and their answers discussed in chapter 7, indicated that the international joint venture negotiation process is influenced by the implementation and usage of the tool in several ways.

Firstly, by being forced to provide the necessary input for the tool, and consequently the business model, involved parties can gain a better understanding of their current and future operations, as was the case for the host organisation of this study.

Secondly, the implementation of the tool will reduce the needed time for the construction of the business model, as well as increase the accuracy of the outcome. This is especially true for joint ventures done by the same company, with the same product portfolio, in different countries. In this case, the time-savings and automation of the process will have a large impact.

Thirdly, as the tool requires less time for future changes, and the level of accuracy is higher, the level of trust between involved joint venture parties should increase. In addition, the ability to change parameters in the financial business model, and calculate the model accordingly, will reduce the number of negotiation meetings necessary, which is especially beneficial for international joint ventures.

Drawbacks of the implementation of the tool include, as mentioned, the risk that involved people will use the tool without critically analysing the outcome. The automation of a process sometimes leads to the over-usage of a tool, which could counter the benefits of the tool altogether.

Furthermore, the construction of a tool for all, or most joint ventures is challenging, because a tool should be specific enough to be relevant, but generic enough to be widely used. To determine the necessary level of specificity, more research should be conducted.

As mentioned in chapters 3 and 4, the main reasons for failures in joint ventures is reducing trust between partners, poor financial negotiations with low accuracy and misalignment of the business cultures between partners. By implementing this tool, two of these three reasons,

namely the low trust and poor financial negotiations, can be reduced. This, in turn, should increase the chances of success for an international joint venture.

Based on the study the conclusion can be made that the building and implementation of a financial business model tool in the negotiation process of international joint ventures has a positive influence.

10. Limitations and Future research

This chapter will mention the perceived limitations of the research and how they were managed. Furthermore, it will explain possible future research opportunities based on the research.

10.1. Limitations

First and most prominent limitation of the research was the limited number of possible interviewees to be used for the research. There is a limited number of people with the necessary expertise regarding the subject to answer interview questions to a degree where they are useful for this research. This research required a very good understanding of a joint venture negotiation process, of which there are not many people. Due to this limitation, the research could be less accurate than intended, as interviewees could have answered questions based on their feeling, rather than experience.

Second limitation was the confidentiality of the subject matter. This tool was constructed for an upcoming organisation of which all relevant information for the tool was under NDA. This meant the tool had to be constructed for the specific organisation, and then anonymised for the research. Though easily solved, this could make the tool less easy to understand.

Third limitation is the fact that every joint venture is very different in nature. Due to this, there is little automation available for the process, as it simply is difficult to implement automation into the process. This limitation could mean the tool built for this research is not applicable in other joint venture situations, meaning the tool would have to be rebuilt. Depending on the process, this could prove counterproductive.

Lastly, due to time restraints, there was no opportunity to see the tool in action in the mentioned joint venture process. Even though testing was done with actual data and information, the tool has not been completely implemented into the process thus far. This limitation occurred due to the lengthy nature of a joint venture process, which outlasted the research period.

10.2. Future research

For future research it would be interesting to implement this, or a similar tool into a larger number of joint venture processes, and see if the overall failure rate (over a longer period) drops compared to the current perceived failure rate. If this would be the case, it would further prove the implementation of this tool is beneficial to a joint venture process. Not only in the negotiation stage, but also in later operations of the joint venture.

Furthermore, it would be interesting to find whether the level of trust in the joint venture process after implementation of a financial business model tool would increase or decrease. Along with the accuracy of the tool compared to manual calculations, this should benefit the joint venture process, as trust is an important factor.

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Appendix

Appendix 1.

Challenges of joint venture set-up and respective stages (Kwicinski et al. 2016).

			Partner Selection	Deal Negotiations	Launch Planning	JV Operations
		Misalignment on venture strategy Description: Partners fundamentally disagree on JV strategy (potentially due to changes in own strategy), hampering decision-making and future growth Example: Hero Honda 74:26 Indian motorcycle JV terminated due to differences in product R&D, royalties, IP sharing by Honda, and allowable competition between JV and Honda	✓	✓	✓	✓
		Over-satisfying parent needs and requirements Description: JV faces substantial costs, delays, and loss of focus from spending too much time satisfying parent demands (e.g., technology or product functionality) Example: Integrion 17-owner JV focused on meeting individual needs instead of best fit for JV overall, resulting in slow decision-making and products with limited market appeal		✓	✓	✓
		Insurmountable culture clash between parents Description: Parents incapable of working together effectively—different ethical yardsticks, decision-making cultures, etc. Example: Sony-BMG 50-50 JV combining music businesses of Sony and Bertelsmann; failed in part due to sharp differences in culture and leadership styles, impacting approach to market	✓	✓	✓	✓
		Inadequately defined operational interface with the parents Description: JV experiences friction, delays, and additional costs due to poorly defined operational interfaces with parents (e.g., sales coordination, operational compliance) Example: U.S. Shale JV 50:50 JV for unconventional oil drilling collapsed due to divergent views on which parent's safety and operational processes to adopt, and allocation of resulting costs		✓	✓	
		Parent failure to deliver on capability-related contributions Description: JV fails to receive needed contributions or promised support (e.g., access to latest parent IP, promotion through parent sales channel, etc.) Example: Tiffany-Swatch Partnership to cross-sell luxury watches ended in lawsuits claiming partners failed to adequately distribute product and systematically sought to block sales growth	✓	✓	✓	
		Over-valuing strategic objectives to justify the deal Description: Initial vision and definition of success based on strategic case, without sharp challenge on JV financial model, true costs and benefits, market projections, etc. Example: Best Buy-Carphone Warehouse 50:50 big-box market-entry JV in Europe terminated due to failure to understand market differences in shopping habits, and lack of UK appeal for U.S. store format		✓	✓	
		Changes in parent circumstances minimize JV relevance Description: Parent experiences change in ownership, loss of sponsor, shift in financial performance, or other challenge that impacts JV relevance Example: Global One Global telecom JV of DT, FT, and Sprint dissolved in 2002 as partners sued each other over outside merger actions, and Sprint sought to merge with a third party				✓
		Inability to address asymmetric economics when they arrive Description: Distribution of benefits to parents sharply diverges from expectations, causing partners to question continued logic of JV absent re-balancing Example: Alternative Energy JV Multi-partner JV to develop new technology and construct multi-billion dollar facility terminated due to highly asymmetric break-even timing for each partner		✓	✓	✓
		Inability to grow and evolve the JV with the market Description: JV blocked from growth due to narrow scope, lack of appetite for change, and/or lack of competency (in JV or parent) needed for success in new markets, etc. Example: Sony Ericsson 50:50 mobile phone JV failed as handset market evolved and shareholders lacked consumer electronics skills to compete against Apple, Android, etc.	✓	✓		
		Picking the wrong operating model—and failing to change it Description: Parents structure of JV with inefficient or inappropriate operating model given market and need, and are unable to appropriately alter how they govern and operate JV Example: Metals Processing JV Multi-partner JV lost out on hundreds of millions of dollars when partners agreed on need to expand and alter operations, but disagreed for years on path to do so		✓		✓

Appendix 2.

Interview questions.

Explanation: For my master thesis, I have created a financial business model tool meant to function in a joint venture negotiation process. This tool is based on relatively easy to accumulate financial information, which it uses to produce a forecast of the balance sheet, P&L and cash flow statement, over the next 5 years per month. This tool is expected to reduce the needed time for the financial stage of the joint venture negotiation significantly. This interview is done to figure out if this tool should be implemented, and if so, when in the process this should be done. This interview should take no more than 10-15 minutes, depending on the answers.

1. Have you ever been involved in a joint venture? If so, were you involved in the negotiations of this joint venture in any way? What was the nature of the joint venture? National or international? New product or existing?
2. What would you say your expertise is in this negotiation process? What do you experience as the most challenging?
3. Do you think joint venture negotiations are unnecessarily long, perhaps due to bottlenecks in the process?
4. Do you think shortening the time necessary for the joint venture negotiations would be beneficial?
5. How much of the negotiation process' time, as an approximate percentage, does the financial stage of the negotiation process take? Is this perceived as a large challenge by you or others in the team?
6. Do you feel like this financial stage is of an appropriate length? Or would you argue it should be shorter or longer?
7. How much of the focus is on the financial stage?
8. In this financial stage. Are there many alterations made after the initial version, which could have been avoided? Were/are these changes easily made, or lengthy?
9. By implementing this tool, it is expected that the financial forecasts for a joint venture will be more accurate, quicker to set up and quicker to alter in the future. Based on this information and the experience you have in joint ventures: would you use this tool if it was offered to you? If so, would you use it to replace the manual financial forecasting or would you use it differently?
10. In case you would use the tool, in which stage of the negotiation process would you implement it?
11. Could you think of any drawbacks of this tool?
12. Is there anything you would like to add which could be relevant or interesting to the research?