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APPLYING DISCOUNTED CASH FLOW VALUATION METHOD TO ASSESS THE INVESTMENT PROJECT OF A SMALL RUSSIA-BASED COMPANY

APLIKACE METODY DISKONTOVANÉHO PENĚŽNÍHO TOKU PŘI HODNOCENÍ INVESTIČNÍHO PROJEKTU
MALÉHO RUSKÉHO PODNIKU

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DAMODARAN, A. Investment philosophies: Successful strategies and the investors who made them work. 2. ed. Hoboken, N.J.: John Wiley & Sons, 2012. ISBN 978-1-118-22192-1.

DAVIES, T. and I. CRAWFORD. Business accounting and finance. Harlow, England: Pearson Education, 2011. ISBN 978-0-273-72312-7.

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ABSTRACT

The aim of the thesis is the determination of investment cash flows generated from Finnish market development activities of a selected Russia-based small company, performing investment valuation using discounted cash flow method and presenting improvements which can rise the attractiveness for potential investors. It includes comprehensive investment valuation of the selected company at the seed stage of its` development, including the overview of current financial situation, usage of valuation model followed by stable growth and terminal value determination. Provided and computed data serves as an example of complete valuation model for capital injections of future projects in the company, thanks to which the author is able to come to particular conclusions on funding perspectives for the company.

The results obtained through the analysis is assessed through the critical prism to be used as a basis for further suggestions on improvement.

KEYWORDS

Investment valuation, market development, incremental, cash flows, discounted cash flows, net present value, NPV, CFs, DCF, PESTL, KSF, analysis, Porter, PFF, SWOT.

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DECLARATION OF ORIGINALITY

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Brno, 31 October 2016

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Nadezda Reznichenko

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INTRODUCTION

A large number of small firms in Russia are ready to start operating on the foreign market, however most of them struggle to obtain initial capital. Current era of communication technologies provides numerous resources for attracting investors all over the world, and a company needs to be ready to make careful assumptions and weighted valuations of desired fundings. It is required from a company to adequately assess its` expected costs and revenues, consider capital structure before entering investment agreement. Therefore, nearly every seed stage firm should make careful initial assumptions in order to further perform proper investment valuation and assess all significant indicators before setting the amount of desired funding.

The aim of the thesis is the determination of investment cash flows generated from sales activities on Finnish market of a selected Russia-based small company, performing investment valuation using discounted cash flow method and presenting improvements, which can rise the attractiveness for potential investors. It includes comprehensive investment valuation of the selected company at the seed stage of its` development, including the overview of current financial situation, usage a valuation model followed by stable growth and terminal value determination. Provided and computed data serves as an example of complete valuation model for capital injections of future projects in the company, thanks to which the author is able to come to particular conclusions on funding perspectives for the company.

The results obtained through the analysis is assessed through the critical prism to be used as a basis for further suggestions on improvement.

The Diploma thesis is divided into three main chapters: theoretical, analytical and practical. Theoretical part contains overview of the definitions that are related to the investment valuation and explain the methodological approaches towards valuation. Theoretical framework is formed by methods of investment valuation, including determination of various related indicators by using Capital asset pricing model, Stable growth model and terminal value determination. For reflecting strategic issues of the

selected market, the author presents PEST, SWOT, Porter`s Five Forces and Key Success Factor`s based analysis.

The analytical part reflects direct application of theoretical frameworks. The related indexes are calculated with one-year`s perspective and applied for five-years duration of the project. Then, the author conducts related calculations based on the information of current state and suggestions from company owners about investment valuation. Forecasted financial statement are used as the main data source to perform evaluation.

Final part of the thesis contains suggestions for improvement company`s attractiveness for investors. Proposed scenarios and recommendations are based on the results of investment valuation using discounted cash flows method and can contribute selected company`s investment projects in future.

This company was chosen for the thesis since it is experiencing a clear investment valuation challenge and as a perfect example of a start-up company with big plans and competitive ideas, but without essential financial resources to start operating effectively. The case of Froggy Home Co. Ltd can be universal for a seed stage companies from developing economies struggling to receive funding for their projects.

OBJECTIVES AND METHODS OF FORMULATION

The aim of the thesis is the determination of investment cash flows generated from Finnish market development activities of a selected Russia-based small company, performing investment valuation using discounted cash flow method and presenting improvements which can rise the attractiveness for potential investors. It includes comprehensive investment valuation of the selected company at the seed stage of its` development, including the overview of current financial situation, usage of valuation model followed by stable growth and terminal value determination. Provided and computed data serves as an example of complete valuation model for capital injections of future projects in the company, thanks to which the author is able to come to particular conclusions on the funding perspectives for the company.

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Final part of the thesis contains suggestions for improvement company`s attractiveness for investors. Proposed scenarios and recommendations are based on the results of

investment valuation using discounted cash flows method and can contribute selected company's investment projects in future.

Information used in this work is based on primary data received from the assessed company's co-owner during personal interviews, via emails and calls. Both quantitative and qualitative data is used as the information source, complemented by the author's insight of current situation. The usage of data in the thesis is contributed to performing discounted cash flows valuation, determination of terminal value and stable growth rate, including calculation of cost of equity with additionally applied methods of analysis and synthesis, and mathematical models.

Co-founder of Froggy Home Co. Ltd agreed to provide information for investment analysis in order to receive interpretation of results and proposed modifications in funding approach if only valuation will be performed in accordance with them suggest investment scheme.

This company was chosen for the thesis since it is experiencing a clear investment valuation challenge and as a perfect example of a start-up company with big plans and competitive ideas, but without essential financial resources to start operating effectively.

DEFINITIONS

APT – Arbitrage Pricing Theory;

ARR – Accounting Rate of Return;

BA – Business Angel;

CAPM – Capital Asset Pricing Model;

CB – Cash Budget;

CF – Cash Flow;

CRP – Country Risk Premium;

CS – Cash Statement;

DGFC – Designer Green Furniture for Children;

ERP – Equity Risk Premium;

ERP – Expected Risk Premium;

EU – European Union;

FX – Foreign Exchange;

IRR – Internal Rate of Return;

IS – Income Statement;

JV – Joint Venture;

KSF – Key Success Factors;

N/A – Not Applicable;

NWC – Net Working Capital.

PESTL – Political, Economical, Socio-Cultural, Technological, Legal;

PFF – Porter's Five Forces;

R&D – Research and Development;

Rf – Risk free rate;

RP – Risk Premium;

RUB – Russian Ruble;

UK – United Kingdom,

US T. Bond – United States' Treasury Bond;

USA – United States of America.

THEORETICAL PART

This section contains the overview of the theoretical background of discounted cash flow analysis and all of its components.

Definition of investment and its types

An investment is essential for any company's wealth and long-term profitability. It has a long-lasting effect on organisation through providing benefits over an investment turn and more years after.

Every capital investment process requires a mix of fixed assets, current assets and liabilities for outlining, application and operation activities. An investment is considered as a purchased asset with certain value that is expected to generate income and appreciate over time (Broadbent and Cullen, 2003). Investment can be defined as "money committed or property acquired for future income" (Business Dictionary, 2016).

Damodaran (2012) even introduces investment philosophy stating that lacking of one you will be in constant search of strategy, changing your portfolio which leads to high losses. He claims one should have an investment philosophy approach to reach one's goal on maximum and provides categorised investment philosophies that partially determine one's strategy:

- Market Timing vs. Asset Selection: betting on the movement of entire markets (financial and real assets) versus focusing on picking good investments within each market.
- Activist Investing versus Passive Investing: correcting market mistakes (or provide the catalyst) vs. market corrects its mistakes.
- Time Horizon: for long time versus short holding periods of investment.

More broadly investment is defined as "an asset or item that is purchased with the hope that it will generate income or will appreciate in the future" (Investopedia, 2016). According to Gutze et al. (2007, p. 3) an investment project, however, "is a series of cash inflows and outflows, typically starting with a cash outflow (the initial investment outlay) followed by cash inflows and/or cash outflows in later periods (years)".

Companies and corporations have a need of financing for short- to medium- and long-term requirements, and financing usually corresponds with the funding requirement. Long-term financial resources that are longer than one year, is normally used to supply capital investment in non-current assets and other long-term projects. Short-term financial resources which are shorter than one year, is normally used to supply company`s need of working capital. Both long- and short-term funding may have internal and external origin for the organisation (Davies and Crawford, 2011).

Internal finance may be provided from:

- retained earnings;
- trade credit;
- cash improvements gained from more efficient management of working capital (Davies and Crawford, 2011).

External short-term funding is usually financed through a short-term debt. The elements of short-term debt are overdrafts, loans and leases that are repayable within one year. These kinds of finance tend to be more expensive, and more flexible as well, but they represent higher risk for the borrower (Davies and Crawford (2011).

External funding sources are mainly long-term and cover:

- ordinary shares (or equity shares);
- preference shares;
- loan capital (financial debt that includes bank loans, debentures and other loans);
- hybrid finance such as convertible loans;
- leasing;
- government funding (for example, EU, UK, USA) (Davies and Crawford, 2011).

However, the origin for external long-term finance available for the company are generally divided into:

- equity share capital (ordinary share);
- debt (long-term loans, bonds and debentures) (Davies and Crawford, 2011).

Same authors claim that both types of financing have a distinct set of features and rights, that are indicated in Table 1.

Table 1. Types of financing

Equity (ordinary shares):	Debt (loans):
<ul style="list-style-type: none"> • the term is unlimited; 	<ul style="list-style-type: none"> • the term is fixed and has a maturity date;
<ul style="list-style-type: none"> • have a nominal or par value; 	<ul style="list-style-type: none"> • loans require security, e.g. debentures;
<ul style="list-style-type: none"> • have voting rights; 	<p>loans have no voting right;</p>
<ul style="list-style-type: none"> • the value of dividends which are payable are dependent on company performance; 	<ul style="list-style-type: none"> • interest is payable on loans; it can be fixed, variable, rolled over;
<ul style="list-style-type: none"> • dividends are payable after corporate taxation since are an appropriation or a use of profit; 	<ul style="list-style-type: none"> • interest on loans in an allowable expense for corporate taxation;
<ul style="list-style-type: none"> • if the company is wound up, the ordinary shareholders are the last to be considered; it is capital having the highest risk. 	<ul style="list-style-type: none"> • if a company is wound up, lenders appear in near the top of the list for consideration.

Definition of investment valuation

Investment valuation can be defined as “basic technique of finance that calculates the value of an investment as the present value of all future cash flows expected to be generated by the investment” (NASDAQ, 2016).

It is known that «investor does not pay for an asset more than it's worth» (Damodaran, 2012., p.1). One can argue that the value of an asset can vary the same way as definition of value through centuries. However, the perception of value must be supported by the real value in future; the price that is paid for an asset today must be reflected in the revenue it is supposed to generate in future. To make a long story short, investor purchases assets for the cash flows expected on them (Damodaran, 2012).

Within a small company or a corporation, valuation has a role among various tasks. It includes:

- valuation in portfolio management;
- valuation in mergers and acquisition analysis;
- valuation in corporate finance (Damodaran, 2012).

The last one is widely used in every organisation for the purpose of finding a way to maximise its` value. Damodaran (2012) also claims that value of the firm and decisions that are made in the company have a direct relevance. It implies decision making of projects, its financing and judgement on dividend policy.

Thus, it is agreed that investments should be valued properly to determine a real value they reflect for the investor in future. For this purpose companies have to use proper investment valuation methods.

Introduction to valuation methods

Damodaran (2012) classifies approaches to valuation into three categories:

- Discounted Cash Flows valuations with related value of an asset to the present value;
- Relative valuation that estimates the asset value from the pricing of comparable assets related to a common variable;
- Contingent claim valuations which implies usage of option pricing models to measure the value of assets that share option characteristics.

However, some authors (Arnold (2013), Davies and Crawford (2011)), mention the following methods as the mostly used ones for investment valuation:

- Payback;
- Accounting Rate of Return (ARR);
- Discounted Cash Flow Valuation Method;
- Internal Rate of Return (IRR).

Payback

For the most popular methods to evaluate project for small and large firms, Arnold (2013) mentions payback and ARR methods. In particular, he provides the survey results conducted that clearly displays remaining popularity of payback method.

The payback period is simply a period for a capital investment in the length of time before the collected stream of estimated cash flows equals the initial investment. The most common reasons of payback method popularity are indicated by Arnold as follows:

- since it is easy and simple to use, it allows to save time;
- may be used at the early stage to avoid projects with distinctly unacceptable risk and return attributes;
- it can measure and reward executives' performance through accounting statements;
- fits for situation of capital deficit.

Arnold (2013) indicates that in spite of the mentioned drawbacks of payback method, it still remains widely used not as primary, but mostly secondary investment appraisal method. It stays theoretically lower method to some other approaches.

Accounting Rate of Return

ARR method is also known under names as return on capital employed (ROCE) and return on investment (ROI). It is a ratio of the book value profit to the investment in the project, in percentage mean.

Number of calculation ways are used, but the most popular approach is to use profit after the deduction of depreciation. For the investment amount, any increase in working capital is considered, with adding to the investment needed. However, the flexibility of ARR calculation is often seen as its main disadvantage; subjective determination for selecting profit and asset definitions is a major weakness of ARR. It can be the reason of some contrary decisions. Arnold (2013) mentions that ARR is still used due to historical reasons and as it is still mentioned in financial press regularly.

Discounted Cash Flows

Discounted Cash Flow Valuation Method considers time value of money. NPV is today's value of the difference between cash inflows and outflows projected in future, accountable for capital investments or long-term projects. Today's value of the net cash flows is acquired by using the Discounted Cash Flow Valuation Method with a certain discount rate (Davies and Crawford, 2011).

One fundamental element of NPV method is relevant CFs that are subject to discounted process. Davies and Crawford (2011) generally suggest to consider the following cash in- and outflows as applicable ones for NPV method:

- turnover;
- related costs to be raised in future (including opportunity costs and incidental effects);
- taxation;
- costs directly related to the evaluated project;
- Net Income;

- Working Capital;
- residual value.

Net CFs that are subject to discounting, determined through deduction cash outflows from cash inflows.

NPV of cash flows is calculated with the following formula:

Formula 1. Net Present Value

$$NPV = -I + \frac{CFt}{(1+r)^t} + \dots + \frac{CFn}{(1+r)^n}$$

where

CF = Net CFs;

I = Investments amount;

t = period of time;

n = life of an asset

r = discount rate (Davies and Crawford, 2011).

Normally, a project or investments is considered financially acceptable, if NPV value is more or equal to zero. In case of negative NPV, it is believed that the return on a project or investments is lower than the rate of return. Outcomes of NPV can be evaluated and analysed for project or investments acceptance or rejection. Discounted Cash Flow Valuation Method is a generally used valuation method; it has solid theoretical basis and constantly developing approaches (Damodaran, 2012).

Internal Rate of Return

IRR is usually used along with Discounted Cash Flow Valuation Method and compared with company's discount rate. If NPV equals zero, it shows the exact rate of return that the project or investments is expected to achieve (Davies and Crawford, 2011).

Formula 2. Internal Rate of Return

$$0 = -I + \frac{CFt}{(1+r)^t} + \dots + \frac{CFn}{(1+r)^n}$$

where

CF = Net Cash Flows;

I = Investments amount;

t = period of time;

n = life of an asset;

r = IRR.

By solving this equation, the IRR is determined; in case IRR exceeds company's target rate of return, the company then may accept the project. Solving it mathematically may be challenging, therefore graphing, trigonometric and algebraic approaches are used. IRR can also be determined if NPV is positive as a supporting element for project valuation (Davies and Crawford, 2011).

Models of capital evaluation

The goal set for any commercial company is the maximisation of long-term shareholder wealth. This implies achieving a return on invested money that is higher for the same level of risk elsewhere.

«Cost of capital is the rate of return that a company has to offer finance providers to induce them to buy and hold a financial security. This rate is determined by the returns offered on alternative securities with the same risk» (Arnold, 2013, p.692). Using the proper cost of capital as a discount rate is crucial.

A fundamental principle of the investment analysis is the trade-off between risk and return. Investors focus on calculating the cost of an asset and the rate of return which can be expected based on the risk level inherent in the asset. At present there are several models that serve to perform capital evaluation (Arnold (2013), Davies and Crawford (2011), Damodaran (2012)):

- Weighted Average Cost of Capital (WACC);

- Arbitrage Pricing Theory (APT);
- Capital Asset Pricing Model (CAPM).

Weighted Average Cost of Capital

WACC may be defined as the average cost of the total financial resources of the company that are the financial dept and the shareholders` equity (Davies and Crawford, 2011). Any company`s real value may be determined by its WACC. The lower the WACC, the higher is NPV of its future CFs and, therefore, the higher is the market value.

The WACC is computed using the following formula:

Formula 3. Weighted Average Cost of Capital

$$WACC = k_e + w_e + k_d + w_d$$

where

k_e = cost of equity;

w_e = weight of equity;

k_d = cost of debt;

w_d = weight of debt (Arnold, 2013).

The basis of WACC is the corresponding proportions, and costs of dept and equity capital that are changing constantly when the firm takes new debt or repays it, or issues additional share capital. The costs and risks related to debt and equity capitals are divergent and are subjects to constant change, therefore may differ depending on the industry and types of business (Davies and Crawford, 2011).

Arbitrage Pricing Theory

APT is a multi-factor model and it is based on the law of one price; the law states that a price of a security will be the same when the exchange rates are taken into consideration. The law of one price exists due to arbitrage opportunities; when a price of a financial instrument is different in two markets, an arbitrageur will purchase it on the cheaper market and sell in on the market with higher prices (Wei, 1988). APT is a very prominent theory that allows factors, other than beta, to describe share returns, and it is a highly engaging model. It is based on the assumption that a rational equilibrium in capital markets excludes arbitrage opportunities.

The assumptions that are typically applied to the derivation of the APT model are as follows:

Markets are perfectly competitive.

All investors prefer more wealth to less wealth and are risk averse.

The stochastic process generating asset returns may be expressed as a linear function of a set of β factors.

The APT is computed using the following formula:

Formula 4. Arbitrage Pricing Theory

$$E(R_p) = R_f + \sum_{i=1}^{i=n} \beta_n \times (r_n - r_f)$$

where

$E(R_p)$ = Expected return;

R_f = Risk-free return;

β_n = Sensitivity to the factor of n ;

$(r_n - r_f)$ = Risk premium for each of the factors in the model (Arnold, 2013).

APT neither specifies the systematic risk factors, nor it states the sign of the β s. Each share will have a different degree of sensitivity to every risk factor included in the model. APT has not been widely adopted for the lack of specify regarding the main factors (Arnold, 2013).

Capital Asset Pricing Model

Any investments are made with some risk involved, unless the investors settle for risk-free securities. Risk that can be diversified away is attributed to as unsystematic risk, while the inherited risk that cannot be diversified away is referred to as systematic risk (or market risk). The CAPM is based on the concern how systematic risk is measured and how it influences desired return and shares price (Davies and Crawford, 2011). The CAPM model is a model of financial market equilibrium, which is built on the model of

portfolio choice developed by Harry Markowitz, and operates based on the following assumptions (Head, 2007):

- All investors hold diversified portfolios.
- All investors have a single-period transaction horizon.
- All investors can borrow and lend at the risk-free rate.
- All investors have homogeneous expectations.
- Perfect capital market universe.
- No taxes and no commissions.
- All investors hold the same portfolio with risky assets which is Market portfolio.

The CAPM is computed using the following formula:

Formula 5. Capital Asset Pricing Model

$$r_a = r_f + \beta_a(r_m - r_f)$$

where

r_f = Risk-free rate;

β_a = Beta of the security;

r_m = Expected market return (Head, 2007).

The model takes into account market return, risk-free return and volatility of a share. Systematic risk is measured with beta (β) factor that is a measure of volatility of a share with regard to systematic or market risk. «The method involves collecting data on the periodic return of the market and the particular security, and using regression analysis or plotting security returns against market returns over a period of time» (Davies and Crawford, 2011, p.568).

The Beta value of a share demonstrates the sensitivity of that share to overall market fluctuations; the lower the Beta the less volatile a share's market movement.

Beta of asset can be calculated with the following formula:

Formula 6. Beta of an asset

Beta of asset, $j = \frac{\text{Covariance of asset } j \text{ with the market portfolio}}{\text{Variance of the market portfolio}}$ (Arnold, 2013).

The same author also states features of Beta as displayed in Table 2.

Table 2. Features of Beta

When:	
$\beta = 1$	A 1 % change in the market index return leads to a 1 % change in a return on a specific share.
$0 < \beta < 1$	A 1 % change in the market index return leads to a less than 1 % change in a return on a specific share.
$\beta > 1$	A 1 % change in the market index return leads to a greater than 1 % change in a return on a specific firm's share.

It is clear that the assumptions of the CAPM allow it to focus on the relationship between systematic risk and return, although it is framed in the unrealistic way; the world created by the assumptions has a number of contradictions with the real world of the investment decisions which makes the CAPM approach impractical. While most of the CAPM assumptions seem idealised in comparison to the real-world, there is a probability of a linear relationship between systematic risk and return. The possibility for investors to borrow at the risk-free rate in the real financial world is highly impossible (Head, 2007).

Cost of capital and cost of equity

There are numerous Discounted Cash Flow Valuation Method's models; they are adjusted by banks and investment consulting companies for their valuation purposes. Nevertheless, in fact they can vary in a couple of dimensions.

Damodaran (2012) provides two paths of evaluation in a business:

- To value just an equity stake in the business;
- To value the entire business

that are summarised in Chart 1.

Chart 1. Equity versus Firm valuation (Damodaran, 2012)

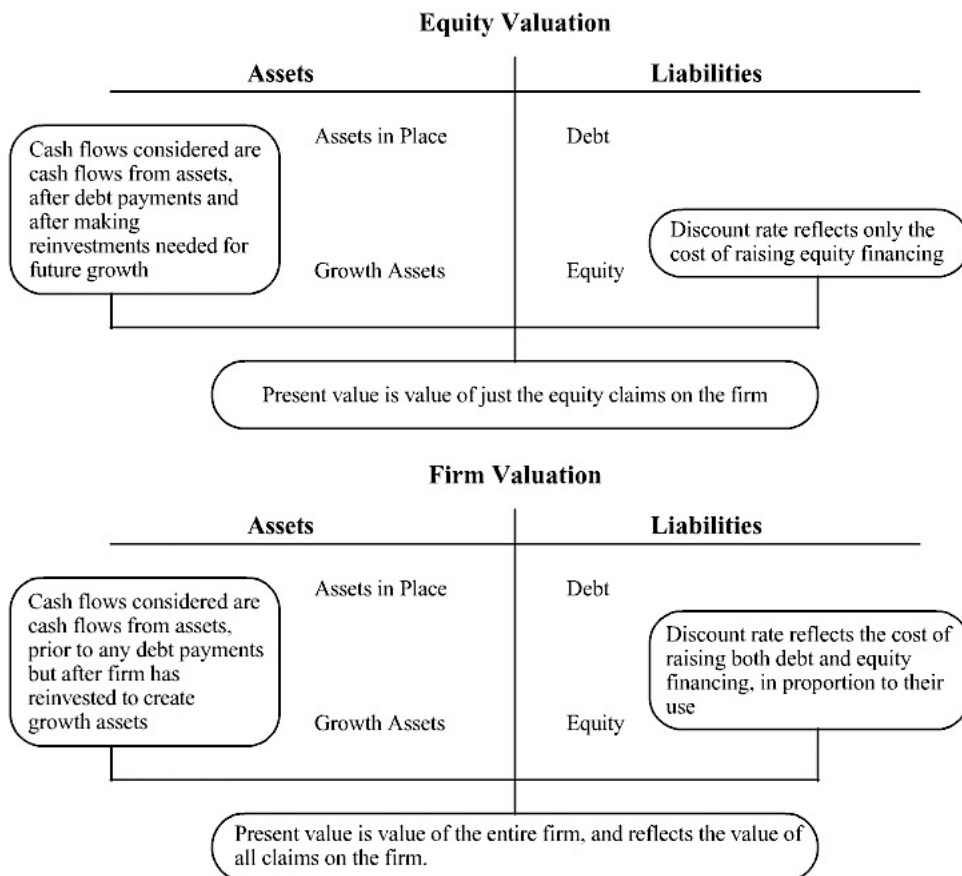


Chart 1 illustrates main aspects to consider when choosing cost of firm or cost of equity valuation model.

Chart 2. Equity versus Firm valuation (Damodaran, 2016)

Assets		Liabilities	
Existing Investments Generate cashflows today Includes long lived (fixed) and short-lived (working capital) assets	Assets in Place	Debt	Fixed Claim on cash flows Little or No role in management <i>Fixed Maturity</i> <i>Tax Deductible</i>
Expected Value that will be created by future investments	Growth Assets	Equity	Residual Claim on cash flows Significant Role in management <i>Perpetual Lives</i>

Firm valuation values the entire business. Present value is the value of entire firm; it reflects the value of all claims on the firm.

Equity valuation values only the equity claims in the business. Present value is the value of equity claims on the firm.

The value of equity is calculated by discounting expected CFs to equity at the cost of equity

Formula 7. Value of Equity

$$\text{Value of equity} = \sum_{t=1}^{t=n} \frac{CF \text{ to equity}_t}{(1+k_e)^t} \text{ (Damodaran, 2012)}$$

where

n = life of an asset;

CF to equity = expected CFs to equity in period t ;

k_e = cost of equity.

The value of firm is calculated by discounting expected CFs to the firm at the weighted average cost of capital (WACC), which is the cost of different elements of funding used by the firm, weighted by their market value proportions.

Formula 8. Value of Equity

$$\text{Value of equity} = \sum_{t=1}^{t=n} \frac{CF \text{ to firm}_t}{(1+WACC)^t} \text{ (Damodaran, 2012)}$$

where

n = life of an asset;

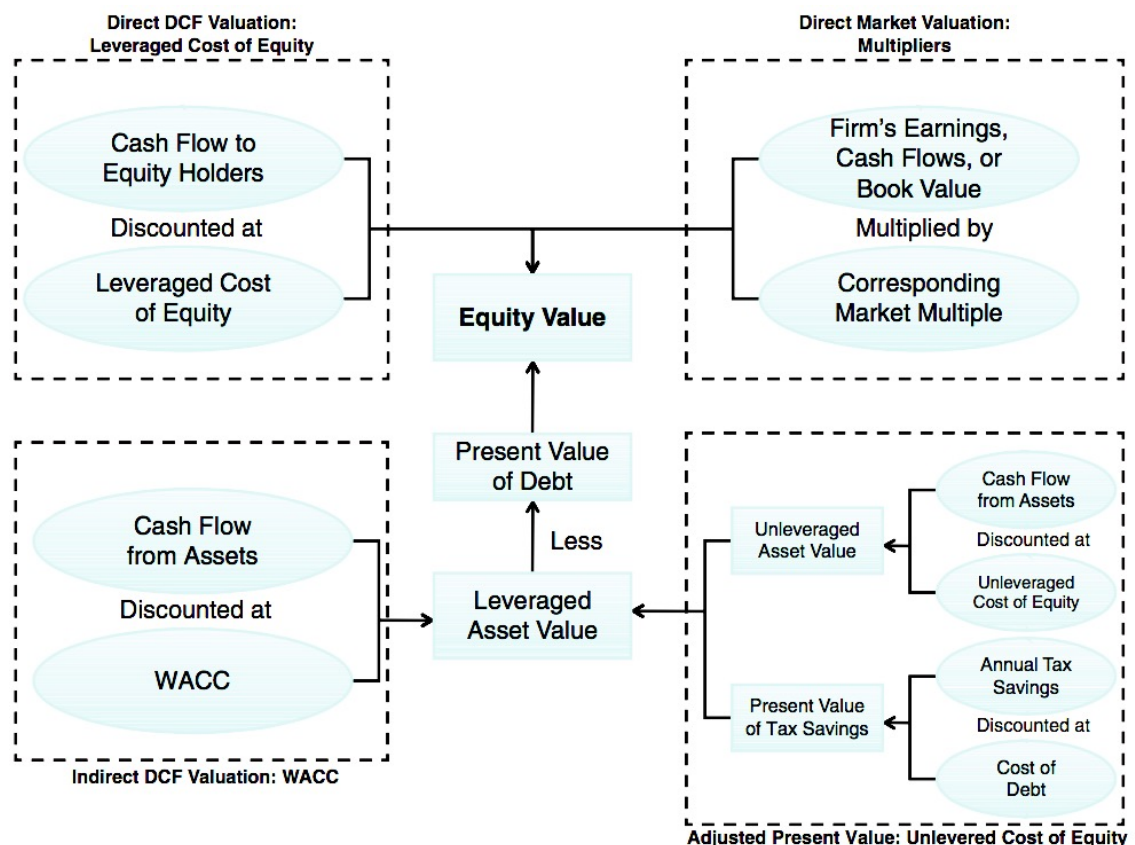
CF to firm = expected CFs to firm in period t ;

WACC = weighted average cost of capital.

«While these approaches use different definitions of cash flow and discount rate, they will yield consistent estimates of value for equity as long as you are consistent in your assumptions in valuation. The key error to avoid is mismatching cash flows and discount rates, since discounting cash flows to equity at the cost of capital will lead to an upwardly biased estimate of the value of equity, while discounting cash flows to the firm at the cost of equity will yield a downwardly biased estimate of the value of the firm» (Damodaran, 2012, p.14).

Jacque (2014) also supports the approach with alternative valuation methods (Chart 3).

Chart 3. Alternative valuation methods (Jacque, 2014)



He states that Discounted Cash Flow Valuation Method may focus on free cash flows (FCFs) discounted at the firm's weighted average cost of capital (WACC).

Formula 9. Value of Capital

$$NPV = \sum_{t=1}^T \frac{FCF_t}{(1+WACC)^t}$$

where:

t = time period;

n = life of an asset;

FCF = free cash flows in period t ;

WACC = weighted average cost of capital.

or on residual equity cash flows (ECFs) to shareholders discounted at the firm's cost of leveraged equity cost of capital (LEC).

Formula 10. Value of Capital

$$NPV = \sum_{t=1}^T \frac{ECF_t}{(1+LEC)^t}$$

where:

t = time period;

n = life of an asset;

FCF = free cash flows in period t ;

LEC = of leveraged equity cost of capital.

Terminal value of Project

As company grows, it becomes problematic for it to maintain high growth and it eventually will grow at a rate less than or equal to the growth rate of the economy in which it operates. This growth rate, defined as stable growth, can be sustained in perpetuity, allowing to estimate the value of all cash flows beyond that point as terminal value for a going concern. Normally, it is taken a consideration of permanent functioning of the company forever, however alternative approaches may be taken into account as well, for example liquidation of the firm at some point in future (Damodaran, 2012).

As it is impossible to estimate cash flows forever, it is suggested to finalise the Discounted Cash Flow Valuation Method by stopping it in future and then count a terminal value that reflects the firm's value at that point.

Formula 11. Value of the firm

$$\text{Value of the firm} = \sum_{t=1}^{t=n} \frac{CF_t}{(1+k_c)^t} + \frac{\text{Terminal Value}_n}{(1+k_c)^n} \quad (\text{Damodaran, 2012})$$

where

CF_t = expected CFs in period t ;

t = time period;

k_c = rate of return.

Damodaran (2016) suggests three ways to determine the terminal value:

- Assume a liquidation of a company's assets in the terminal year;
- Multiple approach to earnings, revenues or book value in the terminal year;
- With stable growth using perpetual growth model.

Liquidation Value

Sometimes in valuations it is assumed that the company will terminate operations at one point in future and sell the assets at the highest price. The emerged estimate is a liquidation

value. Damodaran (2012) proposes two ways to estimate that are using book value of the assets and earning power of the assets.

For book power of the assets the following formula applies:

Formula 12. Book power of the assets

$$\text{Expected Liquidation value} = \text{Book Value of Assets}_{\text{Term yr}} \times (1 + \text{inflation rate})^{\text{Average life of assets}}$$

The limitation of this approach is its` basis on accounting book value and not-reflected earning power of the assets.

For value based upon the earning power of the assets, it is firstly required to make an estimation of the expected cash flows from the assets and then discount resulted cash flows with a proper discount rate to the present. Additional step to be done using this estimation approach is to subtract estimated value of debt outstanding in the terminal year from the liquidation value.

Multiple Approach

This approach involves applying a multiple to the company`s earnings or revenues in that year. Equity multiples (e.g. price earnings ratios) have to be used in case of valuing equity. Despite of simplicity of this approach, the multiple has a massive effect on the final value and it is critical where it is obtained. In case the multiple is estimated by the way comparable firms are priced by the market in the business today, the valuation becomes a relative one. In case the multiple is estimated using fundamentals, it converges on the stable growth model. Using multiple to estimate terminal value in case those multiples are estimated from comparable firms, usually results in a risky mix of relative and discounted cash flow valuation (Damodaran, 2012).

Stable Growth Model

Unlike assumptions of liquidation model when a company has a finite life, enterprises can also reinvest some of their cash flows into new assets and extend lifetime of its existence. Damodaran (2012) continues with the assumption that cash flows, beyond the

terminal value, will grow at a constant rate forever. Then estimated terminal value can be expressed as followed:

Formula 13. Terminal value

$$\text{Terminal Value}_t = \frac{\text{Cash Flow}_{t+1}}{r - g_{\text{stable}}}$$

where the cash flow and the discount rate will be selected upon the one for valuing the equity or valuing the company.

Formula 14. Terminal value of Equity

$$\text{Terminal Value of Equity}_n = \frac{\text{Cash flow to Equity}_{n+1}}{\text{Cost of Equity}_{n+1} - g_n}$$

where cash flow to equity can be defined only as dividends or as free cash flow to equity (Damodaran, 2012).

In case of valuing a firm, the same source provides the following formula to calculate terminal value:

Formula 15. Terminal value

$$\text{Terminal Value}_n = \frac{\text{Cash flow to Firm}_{n+1}}{\text{Cost of Capital}_{n+1} - g_n}$$

where the cost of capital and the growth rate are sustainable forever (Damodaran, 2012).

Consequently, the only rational way of setting terminal value in a discounted cash flow model is to either use a stable growth model. The basis of this model is presented in the next paragraph.

Growth rate and stable growth model

The value of a firm is the present value of expected future cash flows generated by the company. The most significant input in valuation is the growth rate to use to forecast future revenues and earnings. A company can be valuable due to its own assets generating cash flows now or due to expectation to acquire such assets in the future.

Damodaran (2012) suggests three basic ways of estimating growth for any firm:

- Consider past earnings, i.e. historical growth rate;
- Use analyst estimated growth for the company;
- Estimate the growth rate from firm's fundamentals.

Historical growth

Historical growth rate is done through examining company's operations as measured by revenues or earnings, recent growth. Past growth may not be always a favourable indicator of future growth, but it carries possible valuable information for making projections for the future.

While using a company's earnings history, Damodaran (2012) advises to acknowledge that depending on how the average is estimated and whether compounding in values over time is allowed, the values of historical growth may be quite different. Estimation can also be problematic by reason of negative earnings in the past or current periods. He suggests several estimation models:

- Arithmetic and Geometric Averages;
- Linear and Log-Linear Regression Models;
- Model for Negative Earnings;
- Time Series Models to Predict Earnings per Share.
- The mentioned models mainly differ in the usage of statistical and calculation techniques.

Analyst estimates of growth

Equity research analysts prepare recommendations on the company they track plus approximate calculation of income and its growth for the future. Damodaran (2012)

mentions five types of information that has a positive influence on analyst forecasts of growth comparing to the usage of historical growth rates:

- Firm specific information that has been made public since the last earnings report.
- Macroeconomic information that may have an impact on future growth.
- Information revealed by competitors on future prospects.
- Private information about the company.
- Public information other than earnings.

He also points out the studies of short-term earnings forecasts by analysis with general consensus of better forecasts of earnings than models that depend only on historical data. However, analysts are said to make meaningful errors in forecasting earnings, partly due to dependence on the same data source, and most offer as they tend to overlook significant shifts in the essential characteristics of the company. Damodaran (2012) believes that successful valuation often lies in divergence between analysts' forecasts of growth and a company's fundamentals.

Fundamental determinants of growth

According to Damodaran (2012), the safest way to consolidate growth into value is to make it tied to activities that a business participates to create and sustain the growth. He illustrates the relationship between fundamentals and growth in equity income, and determinants of growth in operating income.

To assess growth in earnings per share, Damodaran (2012) advises to look at return on equity and retention ratios. To assess growth in net income, retention ratio should be replaced with the equity reinvestment rate. To estimate growth in operating, return on capital and reinvestment rate should be used. The main consistent pattern is that growth and reinvestment are linked, and estimation of one have to be linked with estimation of the other. Also keeping in mind the quality of growth is significant; the best measure of the quality of growth is the returns earned on investments.

In addition, the same source introduces negative return on capital scenario. Even though the growth can be estimated, but it will not provide significant information about the future.

Possibilities of funding in small companies

Small business owners most often need to rely on investors for funding. In case the firm is promoting a new product, expanding operations or performing a capital upgrade on equipment in order to lower production costs, investor resources are the key to solution.

The main types of business investors are (N. Root III, 2016):

- Banks;
- Personal investors;
- Peer-to-Peer lending;
- Venture Capitalist (VC);
- Business Angel (BA).

Banks

Same way as banks provide consumers with funding, they mostly provide financial sources for small businesses. However, banks procedure for receiving a loan for a seed stage project of business generally requires guarantees in a way of any assets or capital. Many banks include special small business or start up financing programs into their service scope. It is also advised to apply for a bank where you have a relationship and a credit story.

Private investors

Friends and family members can be considered as personal investors. It is important to sign an investment agreement with friends and family members, just as you would with any other type of investor. The agreement should state clearly the size of the investment, the rate of return and any ownership arrangements that may also be part of the investment agreement. Your friends and family may be willing to lend you the cash to start a business, and you may be willing to take it. But mixing business with family is risky; it may bring business issues to family during any personal event. Often, personal investors create additional pressure on business and it is challenging to solve this situations (Rocket Lawyer, 2016).

Peer-to-Peer lending

Peer-to-peer lending lets people place projects online for consideration by potential investors. This type of investor brings the start-up and small business owners together with entrepreneurs willing to help and invest.

Business owners create a profile and post a business plan on a peer-to-peer lending website, and lenders bid on investing the business. The owner and the lender, which is commonly a private individual, negotiate an interest rate for the investment and the lender then provides funds to the entrepreneur.

Your credit history plays a part in whether you can engage in peer-to-peer lending. You grant access to your credit score when you apply for a peer-to-peer loan. This type of investor may require you to improve your credit history before finding you loan-worthy. Engaging in peer-to-peer lending obliges understanding of the terms of the loan and making payments on time. Falling behind can increase your fees and prevent you from seeking another peer-to-peer loan (Rocket Lawyer, 2016).

Most popular Peer-to-Peer lending platforms are:

- Upstart;
- Funding circle;
- Prosper Marketplace;
- CircleBack Lending;
- Peerform;
- SoFi;
- Lending Club (Prableen Bajpai, 2015).

Venture Capitalist

Getting to start a company and/or expand it requires money, and raising the right kind of finance is still a major difficulty for small and medium-sized enterprises. The lack of capital is a barrier to growth that can rarely be overcome by recourse to family, friends, business angels or banks (Invest Europe, 2016). In a difficult situation one of the most common funds provider is a venture capitalist investor.

A venture capitalist is an investor who either provides capital to start-up firms or supports small companies that have plans for expansion, but have no access to equities markets. Venture capitalists are willing to invest in such companies for the reason that they can earn a substantial return on their investments in case of companies' success. Venture capitalists experience major losses as well when their picks fail, but since these investors are typically wealthy enough, they can afford to take the risks associated with funding young, unproven firms (Invest Europe, 2016).

Venture capitalists look for a strong management team, a big potential market and an exclusive product or service with a strong competitive advantage. They also look for opportunities in industries that they are familiar with, and the chance to own a large percentage of the company so that they can influence its direction (Invest Europe, 2016).

Business Angel

Same as venture capitalist, an angel investor funds a sum of money paid for a share of the entrepreneur's business, but then the Angel shares the risks with the business owner. Business Angels take the highest risk of any other investor and fund their investment out of their own pocket, not via other stakeholders. They invest at a very early stage of the business development and, as a result of this level of risk, usually take a higher share percentage. Angels rarely invest altruistically and seek to get a good return on their investment on a planned exit. Statistics verify that the number one cause behind successful early stage companies is the value added from Business Angels (Oxygen Investors, 2016).

Angels normally realise their investment in 3-5 years. Same as venture capitalists, angel investors are grouping into networks or investment clubs to share research and pool their investment capital.

Koss (2007) states that angel investing groups normally aim to take 20-50 % of ownership of start-up companies. The same source also mentions factors affecting valuation for the US investors:

- Management experience;
- Size of targeted market/ opportunity;
- Barriers to entry;

- Need for future investments (so called «investment rounds»);
- Industry comparable;
- Exit opportunities.

However, in Russia business angels tend to invest more in a seed stage companies (Vislosky et al., 2015).

Two most common investing strategies of BA are:

- Investing in equity; entering the equity with possessing about 50 % of the business, following the company's performance and afterwards re-selling his or her owned part at the most beneficial moment in time (Barber and Goold, 2007);
- Investing in company; providing a real loan on special conditions for several years and in case of a return on the investment, the part of the loan is then transferred to the company (Klyarovskaya, 2010).

ANALYTICAL PART

The analytical part of the thesis contains the company introduction with SWOT analysis to demonstrate current obstacles, and valuation of proposed investment project under current state. It is followed by PESTL analysis of macro-factors, PFF-based analysis representing the market situation, and KSF's based analysis presented with the focus on the industry and competitive rivalry.

Company information

Froggy Home Co Ltd. is a design company created in 2011. The key for the company is to produce designed furniture for children for two main age groups: from 3-8 and 8-13 years. The furniture is produced from eco-friendly materials – wood covered by natural vanish. The wood used for the furniture production is delivered from Russia's Siberian region as a furniture board, and vanish is imported from Germany under «Rimmer» brand. Manufacturing is sub-contracted, but the company makes all the designs. The main goal of «Froggy Home» is to achieve economies of scale in order to manufacture affordable products. The company's strategic decision is to access Finnish market, to rise sales and to guarantee high-volume orders to manufacturers to minimise production costs. Froggy Home Co. Ltd is not performing any commercial activity (iow, have not performed any sales) after 2014 due to economic decline in Russia.

Froggy Home Co. Ltd views design, eco-materials and costs minimisation as major advantages for its business. The company states its goal as

“Providing eco-clean and ergonomically friendly children's furniture for every child to experience the brightest early years of their lifes”.

«Froggy Home» considers Russia-based manufacturing cost-effective and beneficial for reducing expenses and initial investments. RUB FX rate is advantageous for importer to Eurozone. Sub-contracting to Russian producers eliminates funding manufacturing facilities for «Froggy Home» with setting a local office for product R&D and main operations at the leased show-room. Company was trying to establish cooperation with Chinese manufacturers to lower costs for production and materials, but this approach

would gain little profit and competitiveness for the company.

Due to strict loan requirements, banks usually do not provide loans for seed stage projects (Veselovsky et al., 2015). For the reason of holding limited financial resources, the company plans to attract investors as the only option for acquiring capital. The company wishes to receive an equity investment from an angel investor with the amount of 2 000 000,00 RUB and asks the author to perform investment valuation for this project.

As a part management's five-years strategic plan for Finnish market development, «Froggy Home» founders have created a forecast of financial statements for each year of investment project (Appendices 4-8).

As Froggy Home Co. Ltd is a young company at the seed stage and has not much experience in managing business operations, the owners prefer to keep the first investment project as simple as possible.

PESTL analysis

The sub-chapter below provides an industry overview and a summary of PESTL analysis that is presented in Appendix 1.

The EU furniture industry has a worldwide recognition thanks to creativity, design innovations, technological development and responsiveness. Furniture sector in the EU consists of 130`000 companies, which generate an annual turnover of around EUR 96 billion (Ec.europa.eu, 2016). EU children`s furniture consumer market continue to grow; the EU furniture manufacturers are investing to offer functional and appealing products (Renda et al., 2014). Children` furniture sector is also indicated as one of the high growth potential products segment in the children`s product industry (HKTDC Research, 2013). Some companies in the EU market have grown into global players like IKEA.

The trade ban came into force with the list of banned products, whereat wood and thereof products are excluded, and will last at least until June 2016 (European Commission, 2014) while new restrictions or indulgences may follow after the ban expires. Since political forces tent to influence and interfere into the trade between Russian and EU, Finland was determined as most suitable country under current conditions.

Finland is the biggest trade partner of Russia among Nordic countries in terms of trade volume in USD (International Trade Center, 2014), and second biggest for wood and articles of wood; it has third highest population in the Nordic states with the average number of children (0-14 years) and child's born rate (Index Mundi, 2014). Moreover, Euro currency is advantageous for import and investments (European Commission, 2013). Furthermore, Finland's furniture industry has less intense rivalry unlike Sweden, Norway and Denmark, that have strong national children's furniture brands as IKEA (Suwaris, 2011), Stokke (Stokke, 2016) and Flexa (Flexa, 2016) respectively. Also, Finland has significant R&D involvement and technological development in the furniture industry as well (Kukk, 2011).

PFF analysis

The matrix below demonstrates a summary of PFF analysis of Froggy Home Co. Ltd presented in details in Appendix 2.

Chart 4. PFF analysis matrix of Froggy Home Co. Ltd

<u>Buyer Power</u> for DGFC varies for local and international manufacturers; caused by product differentiation, higher quality and wider service range, buyer power for international manufacturers is lower than for the local ones.	<u>Supplier Power</u> for DGFC in Finland is medium caused by switching costs and wood price instability.	<u>Threat of Substitutes</u> for DGFC in Finland is low.
	<u>Entry Barriers</u> are quite demanding in DGFC industry.	<u>Competitive Rivalry</u> is not diverse on the market, but the products of each company are unique and distinct that brings customer loyalty and brand recognition element into competition. Thereof, medium rivalry is clearly distinguished in the DGFC industry.

KSF-based analysis

DGFC is a growing industry in the furniture segment. It is full of potential business opportunities due to its relevance and attractiveness for customers. Brands use fundamental strengths and brand dominance to expand their market share. Retailers actively apply value chain advantages by adding essential modifications in logistics, design, packaging and warehouse administrating. Half of the companies with strongest market presence in Finland (IKEA, Niemen Tehtaat) sell DGFC directly from their own stores offering personal approach, customer loyalty schemes and other services. Another half (Stokke, Flexa), being adjustive to market challenges, distribute products through various retailers, thus loosing an opportunity to establish close customer relationship leading to customer loyalty.

Quesada and Gazo (2007, p.6) mention «flexibility, product innovation and quality, excellent customer support, brand image and relocation to lower cost» as several success factors for furniture industry, which can be fairly applicable for DGFC segment. However, barriers to entry as eco-designing expertise, knowledge investments and strict safety regulations, which stops companies from outsourcing, require initiative, know-how and creative development from the businesses. Existing competition, no brand recognition and limited or none customers network make it difficult for new companies like «Froggy Home» to enter market share. Buyers must be attracted by same level of quality, design and service solutions, and fair prices to compete on Finnish market.

The competition in DGFC will grow and companies must consider the following KSFs for their competitive advantage:

- Production flexibility and investments in promising manufacturing technology, eco-design expertise and ergonomic innovations in order to react on local responsiveness;
- Close maintenance of suppliers network and cost-lowering orientation, thus keeping quality and product safety prioritized within established Value Chain Framework;

- Perform marketing research to analyze sales supportive factors as retaining old customers and attracting new ones, seeking for optimal store locations, maintaining and extending distribution network;
- Develop new complementary service within customer loyalty framework such as old-product repair, renovation, design renewal and improvement.

SWOT analysis

The matrix below demonstrates a summary of SWOT analysis of Froggy Home Co. Ltd presented in details in Appendix 3.

Chart 5. Matrix of SWOT analysis of Froggy Home Co. Ltd

Strengths:	Weaknesses:
Eco-design expertise;	Need in investors;
Costs minimizing advantage;	No source of capital;
Original eco-materials from Siberian forest;	Absence of established VC activities;
Convenient transportation lines;	No long-term manufacturing agreements;
Products identical to European segment;	Absence of finalized price-list.
Stable materials supplier network;	
Accessibility to showroom.	
Opportunities:	Threats:
Ruble weakness as advantage for export;	Political instability in Russia;
Demand for customized products	Economic instability may affect the price;
Exhibitions and fairs specialized for eco-design, furniture;	Safety requirements for EU market;
Constant development in the sector of eco-design;	Additional investment project for a patent;
Obtaining a patent.	Comparatively narrow customer segment;
	Comparatively narrow products segment.

Analysis of current state

«Froggy Home» company requires equity investment of 2 000 000,00 RUB for the purpose of business expansion to Finland. The firm evaluated funding option and decided to implement external investment funding option. The reason for this preference are the following:

- 1) absence of internal financing resources;
- 2) low possibility to get bank loan in Russia due to high funding requirements;
- 3) high bank interest rates (from 15 %);
- 4) time consuming process to apply for bank loan in Euro with company registered outside the EU;
- 5) time-saving possibility to start production of most selling items immediately for increasing show-room stock and future sales contracts.

Because Froggy Home Co. Ltd is a young company at the seed stage and has not much experience in managing business operations, the owners prefer to keep the first investment project as simple as possible. The owners rely on sales from Finnish market to bring enough revenue for further expansion and re-structure after five initial years of foreign commercial activity. The company inquires the author to use suitable method to evaluate the investment decision, and NPV method was selected.

Company's sales are expected from Finnish market directly flown to Russia, and taxed in Russia, therefore, the author uses currency characteristics for Finnish market as the main source of cash inflows. However, since investments are made in Rubles currency and main business operations (materials, production, logistics) are performed in Russia, NPV valuation is performed in Rubles. Jacque (2014) describes similar approach for the case of Renault investment project in India.

Determining Risk free rate

According to Damodaran (Damodaran, 2016), Finland's risk free rate for March 2016 is equal to 0,30%. However, he suggests four ways to accurately calculate risk free rate using bond rate nominal, default spread, CDS net US, CDS and default spread in accordance with Moody's rating.

The methods are the following (Damodaran, 2016):

Formula 16. Risk free rate

$$\text{Risk free rate} = \text{Bond Rate Nominal} - \text{Default Spread};$$

Formula 17. Risk free rate

$$\text{Risk free rate} = \text{Bond Rate Nominal} - \text{CDS net US};$$

Formula 18. Risk free rate

$$\text{Risk free rate} = \text{Bond Rate Nominal} - \text{Default Spread based on Moody's rating};$$

Formula 19. Risk free rate

$$4) \text{ Risk free rate} = (1 + \text{Risk free rate USD}) \times \frac{1 + \text{Expected Inflation Euro}}{1 + \text{Expected Inflation USD}} - 1$$

The data illustrated in Table 1 is taken from the same source. Default Spread must be calculated manually in the following way:

Default Spread = Finland 10 years Bond Spreads - US T. Bond Rate (Damodaran, 2016).

In our case the result equals $0,17\% - 1,74\% = -1,57\%$.

Table 3. Data for Finland Rf rate calculation (Damodaran (2016), Tradingeconomics (2016)).

Bond Rate Nominal	Default Spread	CDS net US	CDS	Default Spread based on Moody's rating	Risk free rate USD	Expected Inflation Euro	Expected Inflation USD
-0,11 %	-2 %	0,08 %	0,52 %	0 %	2 %	0,1 %	1,2 %

Consequently, Risk free rate calculated results, using all methods mentioned above, are the following:

$$-0,11 + 1,57 = 1,46;$$

$$-0,11 - 0,08 = -0,19;$$

$$-0,11-0 = -0,11;$$

$$1,0174x(1,001\div 1,012) - 1 = -0,9.$$

As results differ greatly, arithmetical mean approach can be applied. The result of average equals 0,26% that is more close to the stated mean of 0,3 %.

For more accuracy, the author uses average of the last results that is 0,28 % as a Risk free rate for Finland in the upcoming calculations.

Determining Beta value

Beta is no less essential component for cost of equity calculations. Since all estimated sales are planned to be received from Finnish market, thereof Average Beta for Finland (Western Europe) is to be applied.

At the moment, the company is not levered at some degree. Thereof, the author applies Average Unlevered Beta. Damodaran (2016) provides Beta values for Western Europe Furniture and Home Furnishings industry; it equals to 0,89.

Determining Risk Premium

Damodaran (2016) provides Country Risk Premium (CRP) for Finland equal to 0,63 %. He also suggests several ways to estimate cost of equity. For this case the author uses one of mentioned that requires Risk free rate USD, CRP Finland and CRP USA.

ERP is calculated as follows:

$$ER = R_f \text{ USD} + \beta \times \text{CRP US} + \text{CRP Finland (Damodaran, 2016)}.$$

The data required for calculations illustrated in table below.

Table 4. Data for RP rate calculation (Damodaran, 2016), (Tradingeconomics, 2016)

Rf USD	β	CRP USA	CRP Finland
1,74 %	0,89	0 %	0,63 %

Therefore, ERP equals $1,74 \% + (0,89 \times 0,00\%) + 0,63 \% = 2,37 \%$.

However, as mentioned earlier, all BA-type investors expect higher return on their investments, and it is clear that project may be riskier. Therefore, the author estimates that investor will not agree to invest at ERP calculated, but will expect much higher return.

Unfortunately, there is not available data on interest rates preferred by Russian BA investors, thus it is reasonable to expect a rate of no less than bank loan rate. Russian banks provide same amount of loans for the lowest of 12,1 % interest rate, while the average value is 15 % (Tradingeconomics.com, 2016).

For the purpose of calculation of this project the author will consider ERP of 15 %.

Determining Cost of Equity

Classical formula for Cost of Equity is the following:

Formula 20. Cost of Equity

$$\text{Cost of Equity} = R_f + \beta x (R_m - R_f)$$

For our case Expected Return ($R_m - R_f$) is replaced with ERP, thereof the following formula applies:

Formula 21. Cost of Equity

$$\text{Cost of Equity} = R_f + \beta x \text{ERP}$$

The variables are determined as follows:

$$R_f = 0,28 \%$$

$$\beta = 0,89;$$

$$\text{ERP} = 15 \%$$

$$\text{Cost of Equity} = 0,28 + (0,89 \times 15) = 13,63 \%$$

Determine Cash Flows

For the next step relevant cash flows need to be determined for the purpose of discounting. Only net operating income cash flows can be discounted for the purpose of investment valuation. Cash in- and outflows are adopted from the company's IS (Appendices 4-8).

Determine Cash inflows

The company has no fixed assets, neither liabilities due to lack of funds and complex economic situation in Russia. Incremental cash inflows that are going to be used in NPV method are investment value from year 0 (zero) and sales forecast from the company's financial statements.

It is considered that company will receive equity type investments in cash meaning of 2 000 000.00 RUB by the end of 2017. The company will start business activities in the beginning of 2018.

The first cash inflow arises in 2017 (project's year 0 (zero)) that is initial investment equal to 2 000 000.00 RUB in total. Since it is an equity type investment, they are not subject to tax in Russia (PWC, 2016). No further investment inflows are planned so far for the whole period of the project.

The second cash inflow is sales for 5 (five) years that are estimated with 10-15-20-25 % increase accordingly from the second year. All the estimations in financial statements are made in Rubles since all costs and investment are denominated in Rubles.

Cash inflows from expected revenues from selling 197 various items of furniture for children are displayed in Table 6.

Table 5. Estimated sales of Froggy Home Co. Ltd

	2018	2019	2020	2021	2022
Expected sales (RUB)	1 249 900.00	1 374 890.00	1581 123.50	1 897 348.20	2 371 685.25

Determine Cash outflows

Froggy Home Co. Ltd is a design and trading company that sub-contracts products to Russian manufacturers. Expected Cash outflows during the project period are the following: purchase of materials, production, annual show-room rent, repayment of investments, logistics and other expenses. All the data for cash outflows calculations is taken from IS of the company (Appendices 4-8).

Material costs and production costs are adopted from the company's financial statements (Appendices 4-8). Although these costs should increase over five years along with the supply accordingly, but the firm has an agreement with the manufacturer for a discount on bigger volume purchases; it is considered for creating forecasts of financial statements.

Since the company is at seed stage and has limited financial resources, the owners are trying to minimise expenses to the greatest degree. It is a home-based and has no office facilities with sub-contracted production functions, therefore can eliminate some kinds of fixed and operating costs: insurance since it will be paid by manufacturers and logistics companies. When creating new market development strategy, the company planned to enter into a JV agreement with Finnish furniture distribution chain. Strategically with this decision both partners would share benefits to reach mutual success. However, taking into account insignificant international experience of "Froggy Home", this decision was abolished to simplify operations at the seed stage development. Instead, the company plans to provide goods at certain price to the partner company. The partner company adds the margin on top of selling price. By doing so, «Froggy Home» cut down sales and marketing costs. The basis for business operations for both companies is a cooperational agreement.

The company plans to rent show-room from the first year for the whole period of five years. This expense is important in terms of sales activities, administration and promotions, and product development. Electricity and water bills, and administration fees are included in the show room rent. Secondary purpose of show-room is to store stock for direct local sales in Russian market in a small quantity and promotional sales of residual stock.

Estimated monthly payment is 75 000.00 RUB. Annual rent payment after the first year should be adjust in terms of expected inflation. According to Trading Economics (2016), the forecast for inflation in Russia is 6,1 %. The value of show-room rent presented in Table 7:

Table 6. Estimated show-room rental costs of Froggy Home Co. Ltd

	2018	2019	2020	2021	2022
Show room rental costs (RUB)	900 000.00	954 900.00	1013 148.90	107 4951.00	1140523.00

Finland has a mutual border with Russia and company`s office location is situated within 200 kilometres distance. Logistics cost arises in 2018 and being calculated according to the commodity weight. Total weight of yearly batch to be shipped to Finland is approximately 110 t 734.0 kg. Costs for every 19 tons of commodity shipment is 34 558.00 RUB. Therefore, total annual costs for logistics equals 207 350.00 RUB. These costs increase with the supply accordingly.

As Froggy Home does not have a legal entity in Finland and will perform commercial activity through a partner company, it is not obligated by corporate taxation in Finland. Cash inflows are also not under obligation of withhold tax in Russia (PWC, 2016), but only to corporate taxation in Russia with positive Net Income. According to PWC (2016), corporate tax for companies based in Saint-Petersburg can vary from 15, 5 % to 20 %. For this project corporate taxation for Russia is considered as 20 %.

Implementation of Discounting Cash Flows method

Net Income values used for NPV computation are adopted from «Froggy Home» company's financial statements (Appendices 4-8). Cost of Equity is calculated as 13,63 %.

The following NPV formula is used for valuation:

Formula 22. Net Present Value

$$\text{Net Present Value} = -I + \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t} \quad (\text{Damodaran, 2012}).$$

The valuation is presented in Table 7.

RUB into EURO converting exchange rate used: 1 EURO = 69,70 RUB (Xe.com, 2016).

Table 7. Initial scenario of NPV calculation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2 000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	1 249 900,0	1 374 890,0	1 581 123,5	1 897 348,2	2 371 685,3
Total	2 000 000,0	1 249 900,0	1 374 890,0	1 581 123,5	1 897 348,2	2 371 685,3
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show room rent	0,0	900 000,0	954 900,0	477 450,0	506 574,5	537 475,5
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	90 000,0	95 490,0	47 745,0	50 657,4	53 747,5
Total	0,0	1 848 496,9	1 898 729,4	1 492 465,0	1 702 424,6	2 004 852,9
Gross Income (RUB)	2 000 000,0	-598 596,9	-523 839,4	88 658,5	194 923,6	366 832,3
Corporate taxation (20 %)	N/A	N/A	N/A	17 731,7	38 984,7	73 366,5
Net CFs (RUB)	2 000 000,0	-598 596,9	-523 839,4	70 926,8	155 938,9	293 465,8
Cost of Equity (1+0.1363) ⁿ Be ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discounted CFs	2 000 000,0	-526 794,8	-405 706,6	48 342,8	93 536,8	154 914,7

NPV (RUB) = -2 635 707,2.

NPV (Euro) = - 37 815,0.

Determining stable growth

Growth estimation is a necessary part for determining Terminal Value of investment project of Froggy Home Co.Ltd.

When estimating cash flows to equity, Damodaran (2012) recommends to use the following formula for growth determination:

Formula 23. Growth of cash flow to equity

$$g_t = \frac{NI_t - NI_{t-1}}{NI_{t-1}}$$

where

g_t = growth rate in net income;

NI_t = Net Income in year t .

The data for stable growth calculation is adopted from the company's financial statement (Appendices 4-8) and summarised in Table 9.

Table 8. Data for stable growth calculation

$NI_5 (NI_t)$	$NI_4 (NI_{t-1})$
293 465,85	196 464,85

Therefore, «Froggy Home» company's stable growth is determined as:

$$g_5 = \frac{293\,465,85 - 196\,464,85}{196\,464,85} = 0,45.$$

Damodaran (2015) recommends to re-check evaluated stable growth that it rate would not exceed the growth rate of the economy in which a firm operates; it should be lower than the economic growth. It is important to keep in mind that the growth rate should then be less than the discount rate.

Considering the assumptions above, for investment project of Froggy Home Co. Ltd the growth rate equals 0,45 % that is a bit higher than Finnish economic growth in 2016 with the value of 0,3 % (Trading economics, 2016), but less than forecasted growth of up to 0,6 % for the whole investment project's period. The stable growth calculation is based on the forecasted data of the company, thereof the author assumes it can be used for forecasted terminal value valuation.

Estimation of terminal value of the project

Now with stable growth being determined, further terminal value of the project can be determined to illustrate project potential if the company will operate forever.

With all available methods of terminal value calculation suggested by Damodaran (2012), the author uses Stable Growth model for the investment project of Froggy Home Co. Ltd. with terminal value of equity defined as:

Formula 24. Terminal value of equity

$$\text{Terminal value of equity}_n = \frac{\text{Cash flow to equity}_{n+1}}{(\text{Cost of equity}_{n+1} - g_n)}$$

where

g_n = stable growth at period n .

Since 5th year is the last year of the project, Terminal value should be calculated for all the following years. It also must contain cash flow from the last year of the project with added stable growth rate that is corresponding to company's growth rate. Thereof, the adjusted formula for Froggy Home's investment project is the following:

Formula 25. Growth of cash flow to equity

$$\text{Terminal value of equity}_6 = \frac{\text{Cash flow to equity}_5}{(\text{Cost of equity}_5 - g_n)}$$

The data for formula is taken from NPV calculations and summarized in Table 10.

Table 9. Data for terminal value of equity calculation

Cash flow to equity ₅	Cost of equity ₅	g_5
293 465,85	0,1513	0,0045

$$\text{Terminal value of equity}_5 = \frac{293\,465,85}{(0,1513 - 0,0045)} = 1\,999\,086,172 \text{ RUB.}$$

Terminal value of the project is positive. Theoretically, this is the determined final value of the project if estimated growth of 0,45% will remain for the whole period of the

company's lifetime. Terminal value is also used as additional cash inflow for the last year of the project in NPV method.

Including terminal value into Discounted Cash Flow Valuation Method for valuation

As new market development is not a short-term project, it is important to demonstrate the value of «Froggy Home» with the assumption of its` infinite life. This approach is also influential for attracting investors since most often Angel funders require ROI of 10 times higher than the initial investment (Business Angels Europe, 2016).

Previously determined terminal value of 1 999 086,172 RUB should be a part of realted CFs for the fifth (last) year of the project. The valuation is presented in Table 10.

RUB into EURO converting exchange rate used: 1 EURO = 69,70 RUB (Xe.com, 2016).

Table 10. NPV calculation for Froggy Home Co. Ltd including terminal value

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2 000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	1 249 900,0	1 374 890,0	1 581 123,5	1 897 348,2	2 371 685,3
Total	2 000 000,0	1 249 900,0	1 374 890,0	1 581 123,5	1 897 348,2	2 371 685,3
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	900 000,0	954 900,0	477 450,0	506 574,5	537 475,5
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	90 000,0	95 490,0	47 745,0	50 657,4	53 747,5
Total	0,0	1 848 496,9	1 898 729,4	1 492 465,0	1 702 424,6	2 004 852,9
Gross Income (RUB)	2 000 000,0	-598 596,9	-523 839,4	88 658,5	194 923,6	366 832,3
Corporate taxation (20 %)	N/A	N/A	N/A	17 731,7	38 984,7	73 366,5
Terminal value	N/A	N/A	N/A	N/A	N/A	1 999 086,2
Net CFs (RUB)	2 000 000,0	-598 596,9	-523 839,4	70 926,8	155 938,9	2 292 552,0
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2 000 000,0	-526 794,8	-405 706,6	48 342,8	93 536,8	1 210 191,7

NPV (RUB) = - 1 580 430,2.

NPV (Euro) = - 22 674,8.

Outcomes of NPV valuation

With negative Net Income in 2018 and 2019 is not subject to corporate taxation.

Negative cash flows for the same period would also mean negative NPV after the project valuation. Therefore, the company decided to make adjustments to reach positive Net Income for remaining years of the project. Since reducing direct costs would influence the turnover, on these regards indirect costs were closely analysed. The company decided to lessen by half the major expense which is show-room rent from year 2020. The adjustments positively influenced Net Income, but not NPV value. NPV remains negative which means expected return on project is less than 13,63 %. NPV result still remains negative even with terminal value being a part of related CFs.

The project is considered financially unacceptable for short-term investment (5 years).

Proposals for improvement of project to make it more attractive for investors will be stated in the Practical part of the thesis.

PRACTICAL PART

This chapter consists of the proposals, that could change current company's NPV result to a positive one. The recommendations selected are based on the results from the analysis of forecasted financial statements and while performing Discounted Cash Flow Valuation Method. Further these decisions are going to be presented to the company owners at a personal consultation.

In order to improve the current situation with negative NPV result, the author proposes the company to take into consideration the following measures:

- Re-assessment of forecasted fixed costs.
- Re-estimation of selling price to increase cash flows.

Re-assessment of forecasted fixed costs

The development of costs throughout the project's length brings a serious issue that need to be solved on the early stage. Despite of the turnover and initial capital injection, net income is negative during the first two years of operations after the investments received. It is an indication of inappropriate estimation of expenses for the desired volume of sales. Typically, companies with high variable costs and low fixed cost are consider more funding attractive for investments. «Froggy Home», however, during the first two years of its commercial activities demonstrates quite the opposite tendency. A closer look on forecasted income statement provides a clear overview of the necessity of fixed costs re-assessment.

According to the forecasted cash statement of Froggy Home Co. Ltd, the highest expense the company will experience is a show room rent. From the strategic point of view, it is a reasonable operating cost. However, total amount of other costs (materials, production, logistics and other expenses) equals to one show room rental expense. Definitely show room expense must be reduced to achieve positive net income and, therefore, positive NPV outcome.

The author introduces 3 scenarios for reduction fixed costs and re-calculates NPV using Discounted Cash Flow Valuation Method. The evaluation of results of the scenarios is presented further. Initial NPV calculations performed in the analytical part of the thesis will be referred as “initial scenario” for the convenience.

Scenario No.1

At first, it is suggested to reduce rental costs by half from the amount of initial scenario; total show room surface will be reduced from 110 square meters to 55 square meters. Overheads that are part of other expenses are adjusted accordingly. Discounted Cash Flow Valuation with adjusted values is displayed below in Table 11.

Table 11. Scenario No.1 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	1 249 900,0	1 374 890,0	1581123,5	1897348,2	2371685,3
Total	2000 000,0	1 249 900,0	1 374 890,0	1581123,5	1897348,2	2371685,3
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	450 000,0	477 450,0	506 574,5	537 475,5	570 261,5
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	45 000,0	47 745,0	50 657,4	53 747,5	57 026,1
Total	0,0	1 353 496,9	1 373 534,4	1 524 501,9	1736 415,7	2 040 917,5
Gross Income (RUB)	2000 000,0	-103 596,9	1 355,6	56 621,6	160 932,5	330 767,7
Corporate taxation (20 %)	N/A	N/A	271,1	11 324,3	32 186,5	66 153,5
Net CFs (RUB)	2000 000,0	-103 596,9	1 084,5	45 297,3	128 746,0	264 614,2
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2000 000,0	-91 170,4	839,9	30 874,0	77 225,7	139 684,4

Results:

NPV (RUB) = -184 256,3.

NPV (Euro) = -26 435,4.

Scenario No.2

Second suggestion is to remove rental costs completely to analyse its influence on NPV result. Overheads that are part of other expenses are adjusted accordingly. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 12.

Table 12. Scenario No.2 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2000000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	1249900,0	1374890,0	1581123,5	1897348,2	2371685,3
Total	2000000,0	1249900,0	1374890,0	1581123,5	1897348,2	2371685,3
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394346,9	342910,4	394346,9	473216,3	591520,4
Production	0,0	256800,0	277344,0	310625,3	357219,1	428662,9
Show-room rent	0,0	0,0	0,0	0,0	0,00	0,0
Logistics	0,0	207350,0	228085,0	262297,8	314757,3	393446,6
Other expenses	0,0	45000,0	47745,0	50657,4	53747,5	57026,1
Total	0,0	903496,9	896084,4	1017927,4	1198940,2	1470656,0
Gross Income (RUB)	2000000,0	346403,1	478805,6	563196,1	698408,0	901029,2
Corporate taxation (20 %)	N/A	69280,6	95761,1	112639,2	139681,6	180205,8
Net CFs (RUB)	2000000,0	277122,5	383044,5	450556,9	558726,4	720823,4
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2000000,0	243881,4	296662,9	307093,5	335140,7	380508,0

Results:

NPV (RUB) = -436 713,5.

NPV (Euro) = -6 265,6.

Scenario No.3

Second suggestion is to reduce rental costs completely and reduce overheads by 30 % from its value of initial scenario to analyse its influence on NPV result. Overheads that are part of other expenses are adjusted accordingly. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 13.

Table 13. Scenario No.3 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	1 249 900,0	1 374 890,0	1581123,5	1897348,2	2371685,3
Total	2000 000,0	1 249 900,0	1 374 890,0	1581123,5	1897348,2	2371685,3
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	0,0	0,0	0,0	0,00	0,0
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	31 500,0	33 421,5	35 460,2	37 623,3	39 918,3
Total	0,0	889 996,9	881 760,9	1 002 730,2	1 182 816,0	1 453 548,2
Gross income (RUB)	2000 000,0	35 9903,1	493 129,1	578 393,3	714 532,2	918 137,0
Corporate taxation (20 %)	N/A	71 980,6	98 625,8	115 678,7	142 906,4	183 627,4
Net CFs (RUB)	2000 000,0	287 922,5	394 503,3	462 714,7	571 625,8	734 509,6
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2000 000,0	253 386,0	305 537,6	315 380,1	342 878,1	387 732,7

Results:

NPV (RUB) = -395 085,5.

NPV (Euro) = -5 668,4.

Although the company is at seed stage and is currently under cost minimisation strategy, it is possible to reduce only a part of fixed costs. In spite of completely removing rental expenses as the main part of fixed costs and reducing overheads by 30 %, NPV result for the project remains negative as in the initial state scenario. This proves that more adjustments in company`s forecasted financial statement should be done to improve the situation.

However, it is recommended not to include variable costs into reduction strategy; this may affect the quality of finalised products. Quality can cost a lot to the company, but not complying with safety standards and miss-match with customers` expectation may result in much higher problem-solving associated costs. For the company producing children`s furniture with eco-friendly brand, quality control must be strictly on the highest level.

All in all, in case the company chooses to lower the costs radically, it risks to lose its competitive advantage on the new market. Cost reduction approach may be tempting for the firm, nevertheless in a long-term perspective the outcome may result in sales decrease. It proves the statement of impossibility to fix negative NPV result for this particular investment project with cost reduction approach.

Re-estimation of selling price to increase cash flows

As noticed earlier, cost reduction strategy have not had a desired influence on NPV result, therefore it is suggested to increase the turnover instead.

Finnish market development strategy of Froggy Home Co. Ltd is based on promoting products with similar concept, design and values for experienced customers. The products are originated in traditional coherent Finnish design trends form long-term orientation for using high-quality materials that represents its ethical value. The price for similar products of a competing company are 2,5-5 times higher than of the evaluated company (ISSUU, 2016). With eco-design orientation of the EU market, it is reasonable to price the products in accordance with the market value.

Further the author adjusts selling price by increasing the turnover with 4 scenarios and checks the influence of modifications made on reaching positive NPV.

Scenario No.4

With this scenario to reach positive NPV result, the author performs readjustment of selling price by increasing it two times. This scenario reflects the same concept from Scenario 3 with zero rental costs and 30 % reduced overheads. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 14.

Table 14. Scenario No. 4 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2 000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	2 499 800,0	274 9780,0	3162247,0	3794696,4	4743370,5
Total	2 000 000,0	2 499 800,0	274 9780,0	3162247,0	3794696,4	4743370,5
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	0,0	0,0	0,0	0,00	0,0
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	31 500,0	33 421,5	35 460,2	37 623,3	39 918,3
Total	0,0	889 996,9	881 760,9	1 002 730,2	1 182 816,0	1 453 548,2
Gross Income (RUB)	2 000 000,0	1 609 803,1	186 8019,1	2 159 516,8	2 611 880,4	3 289 822,3
Corporate taxation (20 %)	N/A	321 960,6	373 603,8	431 903,4	522 376,1	657 964,5
Net CFs (RUB)	2 000 000,0	1 287 842,5	1 494 415,3	1 727 613,5	2 089 504,3	2 631 857,8
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2 000 000,0	1 133 364,8	1 157 404,8	1 177 518,0	1 253 346,8	1 389 304,3

Results:

NPV (RUB) = 4 110 938,8

NPV (Euro) = 58 980,5

Scenario No.5

With this scenario to reach positive NPV result, the author performs readjustment of selling price by increasing it two times. This scenario reflects the same concept from Scenario 2 with zero rental costs and with the same overheads as in the initial scenario. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 15.

Table 15. Scenario No. 5 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2 000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	2 499 800,0	2 749 780,0	3 162 247,0	3 794 696,4	4 743 370,5
Total	2 000 000,0	2 499 800,0	2 749 780,0	3 162 247,0	3 794 696,4	4 743 370,5
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	0,0	0,0	0,0	0,00	0,0
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	45 000,0	47 745,0	50 657,4	53 747,5	57 026,1
Total	0,0	903 496,9	896 084,4	1 017 927,4	1 198 940,2	1 470 656,0
Gross Income (RUB)	2 000 000,0	1 596 303,1	1 853 695,6	2 144 319,6	2 595 756,2	3 272 714,5
Corporate taxation (20 %)	N/A	319 260,6	370 739,1	428 863,9	519 151,2	654 542,9
Net CFs (RUB)	2 000 000,0	1 277 042,5	1 482 956,5	1 715 455,7	2 076 604,9	2 618 171,6
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2 000 000,0	1 123 860,3	1 148 530,1	1 169 231,4	1 245 609,3	1 382 079,6

Results:

NPV (RUB) = 4 069 310,9;

NPV (Euro) = 58 383,2.

Scenario No.6

With this scenario to reach positive NPV result, the author performs readjustment of selling price by increasing it two times. This scenario reflects the same concept from Scenario 1 with rental costs reduced by half from the initial scenario, but with full fixed costs from the same scenario. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 16.

Table 16 Scenario No. 6 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2 000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	2 499 800,0	2749 780,0	3162247,0	3794696,4	4743370,5
Total	2 000 000,0	2 499 800,0	2749 780,0	3162247,0	3794696,4	4743370,5
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	450 000,0	477 450,0	506 574,5	537 475,5	570 261,5
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	45 000,0	47 745,0	50 657,4	53 747,5	57 026,1
Total	0,0	1 353 496,9	1373 534,4	1 524 501,9	1 736 415,7	2 040 917,5
Gross Income (RUB)	2 000 000,0	1 146 303,1	1376 245,6	1 637 745,1	2 058 280,7	2 702 453,0
Corporate taxation (20 %)	N/A	229 260,6	275 249,1	327 549,0	411 656,1	540 490,6
Net CFs (RUB)	2 000 000,0	917 042,5	1100 996,5	1 310 196,1	1 646 624,5	2 161 962,4
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2 000 000,0	807 042,6	852 707,2	893 012,0	987 694,3	1 141 256,1

Results:

NPV (RUB) = 2 681 712,1;

NPV (Euro) = 38 475,1.

Scenario No.7

With this scenario to reach positive NPV result, the author performs readjustment of selling price by increasing it two times. This scenario reflects the same concept from the initial scenario with initial rental costs and with full fixed costs. Discounted Cash Flow Valuation Method with adjusted values is displayed below in Table 17.

Table 17 Scenario No. 7 of NPV computation for Froggy Home Co. Ltd

Cash Inflows (RUB)	2017	2018	2019	2020	2021	2022
Investment	2000 000,0	0,0	0,0	0,0	0,0	0,0
Sales revenue	0,0	2 499 800,0	2 749 780,0	3162 247,0	3794 696,4	4743370,5
Total	2000 000,0	2 499 800,0	2 749 780,0	3162 247,0	37946 96,4	4743370,5
Cash Outflows (RUB)	2017	2018	2019	2020	2021	2022
Materials	0,0	394 346,9	342 910,4	394 346,9	473 216,3	591 520,4
Production	0,0	256 800,0	277 344,0	310 625,3	357 219,1	428 662,9
Show-room rent	0,0	900 000,0	954 900,0	1013 148,9	1074 951,0	1 140 523,0
Logistics	0,0	207 350,0	228 085,0	262 297,8	314 757,3	393 446,6
Other expenses	0,0	90 000,0	95 490,0	47 745,0	50 657,4	53 747,5
Total	0,0	1848 496,9	1898 729,4	1492 465,0	1702 424,6	2 004 852,9
Gross Income (RUB)	2000 000,0	651 303,1	851 050,6	1669 782,0	2092 271,8	2 738 517,6
Corporate taxation (20 %)	N/A	130 260,6	170 210,1	333 956,4	418 454,4	547 703,5
Net CFs (RUB)	2000 000,0	521 042,5	680 840,5	1335 825,6	1673 817,5	2 190 814,0
Cost of Equity (1+0.1363) ⁿ	N/A	1,1363	1,2912	1,4672	1,6671	1,8944
Discount CFs	2000 000,0	458 543,0	527 301,9	910 480,7	1004 005,4	1 156 486,3

Results:

NPV (RUB) = 1 237 304,8;

NPV (Euro) = 17 751,9.

The author additionally implements Return on Equity (ROE) and payback methods for the last scenario, followed by determination of stable growth rate and terminal value.

Return on Equity for Scenario 7

The author applies ROE for the last year of the project for Scenario 7.

ROE is calculated the following way:

Formula 26. Return on Equity

$$\text{ROE} = \frac{\text{Net Income}}{\text{Book value of Common equity}} \text{ (Damodaran, 2012).}$$

Considering the data from Table 17, ROE is computed accordingly:

$$\text{ROE} = \frac{2\,190\,814,0}{2\,000\,000,0} = 1,1.$$

The profitability from the perspective from the equity investor is 1,1.

Payback for Scenario 7

The author applies payback method for the last scenario of the project for Scenario 7.

Table 18. Payback method of the project for Scenario 7

2017	2018	2019	2020	2021	2022
-2 000 000,0	521 042,5	680 840,5	1 335 825,6	1 673 817,5	2 190 814,0
-2 000 000,0	-1 478 957,5	-798 117	537 708,6	N/A	N/A

The payback of the project for Scenario 7 is 3 years and 8 months.

Stable growth rate for Scenario 7

Stable growth is determined using Formula 23.

Considering the data from Table 17, stable growth rate is computed accordingly:

$$g_5 = \frac{2\,190\,814,0 - 1\,673\,817,5}{1\,673\,817,5} = 0,31 \%$$

Terminal value for Scenario 7

Terminal value is determined using Formula 25.

Considering the data from Table 15 and stable growth rate determined above, terminal value is computed accordingly:

$$\text{Terminal value of equity}_5 = \frac{2\,190\,814,0}{(0,1513 - 0,0031)} = 14\,782\,820,5 \text{ RUB.}$$

According to the results of all the estimated scenarios above, increase of selling price has a positive influence on NPV for all four suggested scenarios with various fixed costs considerations. The company can consider further adjustments of selling price in case of project extension or new investment projects. Analysis of company's results using ROE and payback methods also demonstrates positive achievements.

Positive NPV for mentioned scenarios also implies positive net income that is resulted in stable growth rate and terminal value computations for equity type investments. Although growth rate for Scenario 7 is lower than the one for initial scenario, nevertheless terminal value of project for Scenario 7 is almost seven times higher than the one for the initial scenario.

Also, original calculations indicated company's 10 % margin, but after adjusting selling price the margin increased for more than 200 %. All of these factors have positive influence for attracting any kind of investors in future.

The author is aware of NWC changes that will result in future scenarios and will be reflected as cash outflows in forecasted CS, but with no historical data for acknowledgement and keeping in mind that it is a simplified case, the author suggests a rough estimation for NWC for future projects as 10 % of revenues.

Availability of spare cash from increased turnover could be used for reinvestment and/ or expansion and development purposes. In perspective Froggy Home Co. Ltd could evaluate using internal and external investment for further EU market development.

FUTURE CONSIDERATIONS

Analytical and practical chapters of the thesis demonstrate examination of current state and possible scenarios to improve project's attractiveness for potential investors. Nevertheless, the company is advised to consider some additional aspects in future:

- Carefully estimate investment amount for future projects to avoid re-adjustments and re-assessment of CFs components during the project valuation process;
- Use payback method as pre-valuation tool: implementation of this fast and easy assessment tool before project valuation helps to filter perspectiveless proposals at the first stage and focus on the ones with better outcome;
- Consider several types of investors: nowadays global funding opportunities are available thanks to developed communication technologies at any time and place. The company may seek for capital injections sources in more stable currencies through online Peer-to-Peer platforms as a complementary one for future projects.
- Net Working Capital: the company should remember of NWC that will arise in future;
- Allocation of financial resources: the owners need to pay close attention to capital structure of the company. Correct methods of proper allocation of financial sources can bring significant advantages in terms of costs, taxation and profitability.

Further, several possible risks need to be considered in future development of current project and/or for future funding projects of the company:

- Foreign exchange risk: since company operates in international trade, it is subject to transaction risk exposure, as well as translation and economic risk exposures in the long-run. Transaction risk can be reduced through minimising equity investment, while methods for lessen translation risk include netting, matching, leading and lagging techniques along with forward market hedge. To reduce economic exposure, it is recommended to avoid being exposed to only one currency and determine sales-generating costs in the same currency.
- Partner risk: working only with one partner may result in constant price-reducing demand from his or her side. It is also possible that the partner may fail to achieve sales plan or provoke reputation damage on the new market occasionally (or

intentionally), this way damaging further expansion and development plans. To minimise this risk, the company may have more than one partners.

- Economic risk: Russian economy displayed lack of stability for the last 18 years. Ruble was subject to high inflation of almost 85 % in 1998, 13 % in 2008 and nearly 13 % in 2015 (Inflation EU, 2016). With lack of economic stability, inflation can provoke increase of costs which may result in failure to meet production or/and sales plans.
- Political risk: current tense political situation between the EU and Russia may possibly result in more trading restrictions or embargo.

CONCLUSION

The main aim of the thesis was to determine investment cash flows generated from sales activities on Finnish market of a selected Russia-based small company and perform investment valuation using discounted cash flows method under company's proposed requirements and subsequently to present possible improvements necessary for positive performance of the analysed company's business activity in the foreign market.

The thesis consists of three main chapters. The first chapter reflects theoretical framework that indicates the basic principles of investment valuation. The next chapter introduces the company at the current state. The related indexes are calculated with one-year perspective and applied for five years' length project. Finally, the related calculations are conducted based on the information of current state and suggestions to the company owners on investment valuation. Forecasted financial statement are used as the main data source to perform evaluations. The final part of the thesis contains suggestions for improvement company's attractiveness for investors.

The method of investment valuation demonstrated one main issue for future funding project. The company continues to experience negative Net Present Value that is unacceptable from the investors' point of view. The valuation also indicates acceptable stable growth rate determined for the reason of computing on terminal value of the project.

Based on the results of the valuation, practical suggestions were proposed. The main disturbing part is improper estimation of fixed costs, rent expenses in particular. However, further valuation with adjusted data have not demonstrated direct influence of partial fixed costs reduction on NPV improvement. Then the focus is switched to consideration of another problematic part that is a selling price, and subsequent valuation with adjusted data demonstrates its' direct influence on NPV improvement.

Other measures are dedicated to be taken into account as remarkable considerations for the future investment projects. It is recommended for the company to carefully estimate investment amount for future projects, improve forecasts of financial statements and budgeting preparation, as well as perform pre-assessment of projects with simplified tools. It is also recommended to consider other types of investors to access global funding

opportunities and receive funding in more stable currency. Further, the company is most likely to experience possible risks related to foreign exchange exposures, partner risk, political and economic risk. There is a space for making lucrative investments opportunities, but the company needs to consider other additional factors.

The author is acknowledged that foreign market development is a multiple-process strategy, and presents a simplified approach in the thesis; evaluation of possible scenarios of market development can be more complex and detailed.

The author supposes that the outcome of investment valuation together with the suggested measures can notably contribute company`s external investment valuation experience and preparation for future funding projects.

REFERENCES

Arnold, G. (2013). Corporate financial management. 5th ed. Harlow, England: Pearson.
In-text: (Arnold, 2013)

Art League. (2013). Collection of chairs and wardrobe stands with hangers for kids bedrooms. [online] Available at: <https://xn----7sbblyr7aq.xn--p1ai/projects/froggyhome1.htm>

Baraldi, E. (2008). Strategy in Industrial Networks: Experiences from IKEA. California Management Review, 50(4), pp.99-126.

Barber, F. and Goold, M. (2007). The Strategic Secret of Private Equity. [online] Harvard Business Review. Available at: <https://hbr.org/2007/09/the-strategic-secret-of-private-equity>

Best Country Reports. (2014). Population Density Map of Finland. [online] Available at: http://www.bestcountryreports.com/Population_Map_Finland.php

Broadbent, M. and Cullen, J. (2003). Managing financial resources. Oxford: Butterworth-Heinemann.

Business Angels Europe. (2016). BAE - Business Angels Europe. [online] Available at: <http://www.businessangelseurope.com/SitePages/default.aspx>

Business Dictionary. (2016). What is investment? Definition and meaning. [online] Available at: <http://www.businessdictionary.com/definition/investment.html>

Ciesin.org. (1991). International Labour Organisation International Labour Conventions and Recommendations. 1919-1991. Volume II (1963-1991). [online] Available at: <http://www.ciesin.org/docs/010-282/010-282.html>

Compendium of Cultural Policies and Trends in Europe. (2015). Russia : 3. Competence, decision-making and administration : 3.2 Overall description of the system. [online] Available at: <http://www.culturalpolicies.net/web/russia.php?aid=32>

Coy, P. and Lu, W. (2015). The Bloomberg Innovation Index. [online] Bloomberg. Available at: <http://www.bloomberg.com/graphics/2015-innovative-countries/>

Damodaran, A. (2012). Investment Philosophies: Successful Strategies and the Investors Who Made T. John Wiley & Sons

Damodaran, A. (2012). Investment Valuation: Tools and Techniques for Determining the Value of Any Asset. 2nd ed. New York, NY, USA: John Wiley & Sons.

Damodaran, A. (2015). Applied Corporate Finance, 4th Edition. John Wiley & Sons.

Damodaran, A. (2016). Country Default Spreads and Risk Premiums. [online] Damodaran Online. Available at: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

Damodaran, A. (2016). Dividend Pay-out ratios and dividend yields Western Europe. [online] Damodaran Online. Available at: <http://people.stern.nyu.edu/adamodar/pc/datasets/divfundEurope.xls>

Damodaran, A. (2016). Interest rates March 16. [online] Damodaran Online. Available at: <http://people.stern.nyu.edu/adamodar/pc/blog/interestratesMarch16.xlsx>

Damodaran, A. (2016). Interest rates. [online] <http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/dcf rates.pdf>

Damodaran, A. (2016). Intrinsic Valuation. [online] Damodaran Online. Available at: <http://people.stern.nyu.edu/adamodar/pdfiles/eqnotes/basics.pdf>

Damodaran, A. (2016). Project workbook. [online] Damodaran Online. Available at: <http://people.stern.nyu.edu/adamodar/pdfiles/execs/projworkbookJuly2016.pdf>

Damodaran, A. (2016). Total beta Western Europe. [online] Damodaran Online. Available at: <http://people.stern.nyu.edu/adamodar/pc/datasets/totalbetaEurope.xls>

Davies, T. and Crawford, I. (2011). Business accounting and finance. Harlow, England: Pearson/Financial Times Prentice Hall.

Ec.europa.eu. (1992). TREATIES OFFICE DATABASE. [online] Available at: <http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&treatyId=544>

Ec.europa.eu. (2016). Furniture industry - European Commission. [online] Available at: http://ec.europa.eu/growth/sectors/raw-materials/industries/forest-based/furniture/index_en.html

Eurasian Commission. (2012). On the safety of furniture products. [online] Available at: <http://www.eurasiancommission.org/en/act/texnreg/deptexreg/tr/Pages/bezopMebelProd.aspx>

Europa.eu. (2016). EU institutions and other bodies. [online] Available at: http://europa.eu/about-eu/institutions-bodies/#goto_1

Europa.eu. (2016). EU institutions and other bodies. [online] Available at: http://europa.eu/about-eu/institutions-bodies/#goto_1

Europa.eu. (2016). How EU decisions are made. [online] Available at: http://europa.eu/eu-law/decision-making/procedures/index_en.htm

European Commission Agricultural and Rural Development. (2015). Value of EU agri-food exports August 2014-May 2015, relative to 12 months earlier. [online] Available at: http://ec.europa.eu/agriculture/newsroom/218_en.pdf

European Commission. (2005). General Product Safety Directive (GPSD). [online] Available at: http://ec.europa.eu/consumers/consumers_safety/product_safety_legislation/general_product_safety_directive/index_en.htm

European Commission. (2013). Business benefits. [online] Available at: http://ec.europa.eu/economy_finance/euro/why/business/index_en.htm

European Commission. (2014). INFORMATION NOTE ON THE RUSSIAN BAN ON AGRI-FOOD PRODUCTS FROM THE EU. [online] Available at: http://ec.europa.eu/agriculture/russian-import-ban/pdf/info-note-03-09_en.pdf

European Commission. (2014). List of agricultural products, raw materials and foodstuffs originating from the United States, countries of the European Union, Canada, Australia and the Kingdom of Norway, that are banned for imports to the Russian Federation for a period of one year. [online] Available at: http://ec.europa.eu/agriculture/russian-import-ban/pdf/list-of-banned-products-20-08-2014_en.pdf

European Committee for Standardization. (2015). CEN/TC 207/WG 2 - Requirements for children's and nursery furniture. [online] Available at: https://standards.cen.eu/dyn/www/f?p=204:7:0:::FSP_ORG_ID:7447&cs=1C5C63979CDA1E57778862DE96D3A4DF5

European Parliament. (2015). Economic impact on the EU of sanctions over Ukraine conflict. [online] Available at: [http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/569020/EPRS_BRI\(2015\)569020_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2015/569020/EPRS_BRI(2015)569020_EN.pdf)

European Union Newsroom. (2016). EU sanctions against Russia over Ukraine crisis. [online] Available at: http://europa.eu/newsroom/highlights/special-coverage/eu_sanctions/index_en.htm

European Union Newsroom. (2016). EU sanctions against Russia over Ukraine crisis. [online] Available at: http://europa.eu/newsroom/highlights/special-coverage/eu_sanctions/index_en.htm

Eurostat. (2014). Half-yearly electricity and gas prices, second half of year, 2012–14 (EUR per kWh). [online] Available at: [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Half-yearly_electricity_and_gas_prices,_second_half_of_year,_201214_\(EUR_per_kWh\)_YB15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Half-yearly_electricity_and_gas_prices,_second_half_of_year,_201214_(EUR_per_kWh)_YB15.png)

Flexa. (2016). Sustainability - Flexa. [online] Available at: <http://www.flexachildrensbeds.com/nature/>

GlobalTrade.net. (2016). Trade Regulations and Standards in Russia. [online] Available at: <http://www.globaltrade.net/f/business/text/Russia/Legal-and-Compliance-Trade-Regulations-and-Standards-in-Russia.html>

GlobalTrade.net. (2016). Trade Regulations and Standards in Russia. [online] Available at: <http://www.globaltrade.net/f/business/text/Russia/Legal-and-Compliance-Trade-Regulations-and-Standards-in-Russia.html>

Götze, U., Northcott, D. and Schuster, P. (2007). Investment appraisal. Berlin: Springer.
Head, A. (2007). Corporate Finance. Pearson Education UK.

HEDEMANN, L. and NISSEN, M. (2013). The internationalization of Danish furniture. A value chain perspective. OJS, 2.

IKEA. (2016). Lasten IKEA. [online] Available at: http://www.ikea.com/fi/fi/catalog/categories/departments/childrens_ikea/?icid=fi|itl|3022015|6

Index Mundi. (2014). Finland Demographics Profile 2014. [online] Available at: http://www.indexmundi.com/finland/demographics_profile.html

International Labour Organisation. (1991). Technological changes in the wood industries with special emphasis on training needs and employment opportunities. [online] Available at: http://staging.ilo.org/public/libdoc/ilo/1990/90B09_407_engl.pdf

International Trade Center. (2014). Trade Map. [online] Available at: <http://www.trademap.org/Bilateral.aspx> .

International Trade Center. (2014). Trade Map. [online] Available at: <http://www.trademap.org/Bilateral.aspx>

Invest Europe. (2016). Guide on Private Equity and Venture Capital for Entrepreneurs. [online] Available at: <http://www.investeurope.eu/media/78722/guide-on-private-equity-and-venture-capital-2007.pdf>

Invest in Finland. (2011). Ikea's sales increases by 19% in Finland. [online] Available at: <http://www.investinfinland.fi/articles/news/retail/ikeas-sales-increases-by-19-in-finland/51-231>

Investopedia. (2016). Investment. [online] Available at: <http://www.investopedia.com/terms/i/investment.asp>

Issuu. (2015). FLEXA Classic price list (UK). [online] Available at: https://issuu.com/flexaworld/docs/uk_classic_retail_pricelist_2013-20

ISSUU. (2016). IE FLEXA Price list 2016/2017. [online] Available at: https://issuu.com/flexaworld/docs/ie_flexa_pricelist_2016-2017_irelan

Jacque, L. (2014). International Corporate Finance. Wiley.

Kekic, L. (2007). The Economist Intelligence Unit's index of democracy. [online] The Economist. Available at: http://www.economist.com/media/pdf/DEMOCRACY_INDEX_2007_v3.pdf

Kitroeff, N. and Weisenthal, J. (2014). Here's Why the Russian Ruble Is Collapsing. [online] Bloomberg. Available at: <http://www.bloomberg.com/news/articles/2014-12-16/no-caviar-is-not-getting-cheaper-everything-you-need-to-know-about-the-russian-ruble-collapse>

Klyarovskaya, D. (2010). Business Angels in Russia. [online] The U.S. Russia Center for Entrepreneurship. Available at: http://www.cfe.ru/en/resource_center/bulletin/issue560/558.htm

Koss, A. (2007). Best Practice Guidance for Angel Groups - Deal Structure and Negotiation. SSRN Electronic Journal.

KPMG global. (2016). Corporate tax rates table. [online] Available at: <https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online/corporate-tax-rates-table.html>

Kukk, K. (2011). SIMPLY MORE FLEXIBLE. [online] HighTech Finland. Available at: <http://www.hightechfinland.com/direct.aspx?area=htf&prm1=1045&prm2=article>

Lähtinen, K., Alina Samaniego Vivanco, D. and Toppinen, A. (2014). Designers' wooden furniture ecodesign implementation in Scandinavian country-of-origin (COO) branding. *Journal of Product & Brand Management*, 23(3), pp.180-191.

Lähtinen, K., Alina Samaniego Vivanco, D. and Toppinen, A. (2014). Designers' wooden furniture ecodesign implementation in Scandinavian country-of-origin (COO) branding. *Journal of Product & Brand Management*, 23(3), pp.180-191.

Largest Companies. (2014). The largest companies by turnover in Finland, Manufacture of furniture. [online] Available at: <http://www.largestcompanies.com/toplists/finland/largest-companies-by-turnover/industry/manufacture-of-furniture>

Largest Companies. (2015). Furniture in Finland. [online] Available at: <http://www.largestcompanies.com/search?what=furniture&where=Finland>

Largest Companies. (2015). Ikea Oy - Detailed information. [online] Available at: <http://www.largestcompanies.com/company/Ikea-Oy-252985/closing-figures-and-key-ratios>

Largest Companies. (2015). Niemen Tehtaat Oy - Detailed information. [online] Available at: <http://www.largestcompanies.com/company/Niemen-Tehtaat-Oy-83480/closing-figures-and-key-ratios>

Lifetimekidsrooms.com. (2016). LIFETIME Kidsrooms | Our vision. [online] Available at: <http://www.lifetimekidsrooms.com/about/vision/>

Lorenz, T. (2016). The return of 'raw' materials in home design. [online] Financial Times. Available at: <http://www.ft.com/cms/s/0/72f19670-b566-11e5-b147-e5e5bba42e51.html#slide3>

N. Root III, G. (2016). Types of Business Investors. [online] Small Business. Available at: <http://smallbusiness.chron.com/types-business-investors-4115.html>

NASDAQ. (2016). NASDAQ Financial Glossary; Definition of "Investment Valuation ". [online] Available at: <http://www.nasdaq.com/investing/glossary/i/investment-valuation-model>

Niemen Tehtaat. (2016). Historia | byNIEMI. [online] Available at: <http://www.byniemi.fi/niemen-tehtaat/historia/>

OECD. (2006). Environmental Policy and Regulation in Russia. [online] Available at: <http://www.oecd.org/env/outreach/38118149.pdf>

Official Journal of the European Union. (2012). REGULATION (EU) No 1217/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2012 on the allocation of tariff-rate quotas applying to exports of wood from the Russian Federation to the European Union. [online] Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R1217&qid=1460111753093&from=EN>

Oxygen Investors. (2016). Guide to raising angel investment. [online] Available at: <http://www.oxygeninvestors.com/guide-to-raising-angel-investment/>

Pitney Bowes Global Trade Solutions. (2016). DutyCalculator. [online] Available at: <http://www.dutycalculator.com/hs-code-duty-rate-import-restrictions/940350/kids/9403.50.9080/9403.50.0000/2936/>

Problem Bajpai, C. (2015). The 7 Best Peer-To-Peer Lending Websites (LC). [online] Investopedia. Available at: <http://www.investopedia.com/articles/investing/092315/7-best-peertopeer-lending-websites.asp>

PWC. (2016). Russian Federation: Corporate - Taxes on corporate income. [online] Available at: <http://taxsummaries.pwc.com/uk/taxsummaries/wwts.nsf/ID/Russian-Federation-Corporate-Taxes-on-corporate-income>

Quesada, H. and Gazo, R. (2007). Methodology for determining key internal business processes based on critical success factors. Business Process Mgmt Journal, 13(1), pp.5-20.

Renda, A., Pelkmans, J., Schrefler, L., Luchetta, G., Simonelli, F., Mustilli, F., Wieczorkiewicz, J., Busse, M., Tomaselli, A., Tracogna, A., Zavatta, R. and Bolognini, A. (2014). "THE EU FURNITURE MARKET SITUATION AND A POSSIBLE

FURNITURE PRODUCTS INITIATIVE” FINAL REPORT. [online] Centre for European Policy Studies. Available at: [https://www.ceps.eu/system/files/ Final report_en.pdf](https://www.ceps.eu/system/files/Final_report_en.pdf)

Rocket Lawyer. (2016). Types of Investors for Start-ups. [online] Available at: <https://www.rocketlawyer.com/article/types-of-investors-for-startups.rl>

Salvador, C., Vicente, J. and Martins, J. (2014). Ergonomics in children's furniture - emotional attachment. [online] Academia.edu. Available at: http://www.academia.edu/7816771/Ergonomics_in_childrens_furniture_-_emotional_attachment

Sectoral e-business Watch. (2008). E-business and B2B-integration to sourced warehouse at STOKKE, Norway. [online] Available at: <http://docplayer.net/5179777-1-1-e-business-and-b2b-integration-to-sourced-warehouse-at-stokke-norway.html>

Statista. (2014). Furniture manufacturer sales growth in Finland 2014. [online] Available at: <http://www.statista.com/statistics/431936/furniture-manufacturing-sales-year-on-year-change-finland/>

Statista. (2014). Furniture manufacturer sales growth in Finland 2014. [online] Available at: <http://www.statista.com/statistics/431936/furniture-manufacturing-sales-year-on-year-change-finland/>

Statista. (2016). Russia - Inflation rate 2020. [online] Available at: <http://www.statista.com/statistics/271376/inflation-rate-in-russia/>

Steen, A. (2000). Decision-making in Russia: From Hierarchy to Networks?. [online] European Consortium for Political Research. Available at: <https://ecpr.eu/Filestore/PaperProposal/d1f4e4ff-24c7-4362-be5c-e42be6014b2d.pdf>

Stokke. (2016). About Stokke. [online] Available at: <https://www.stokke.com/GBR/en-gb/stokke/about/about.html>

Suwaris, S. (2011). IKEA Case Study. [online] Academia.edu. Available at: http://www.academia.edu/5197655/IKEA_Case_Study

The Economist. (2013). The secret of their success. [online] Available at: <http://www.economist.com/news/special-report/21570835-nordic-countries-are-probably-best-governed-world-secret-their>.

The Global Economy. (2014). Russia Political stability. [online] Available at: http://www.theglobaleconomy.com/Russia/wb_political_stability/

The Global Economy. (2014). Russia Political stability. [online] Available at: http://www.theglobaleconomy.com/Russia/wb_political_stability/

The U.S.-Russia Business Council. (2016). State Duma. [online] Available at: https://www.usrbc.org/goverment/russian_government/russian_government_state_duma/

The U.S.-Russia Business Council. (2016). State Duma. [online] Available at: https://www.usrbc.org/goverment/russian_government/russian_government_state_duma/

Tks.ru. (2016). ТН ВЭД ЕАЭС. [online] Available at: http://www.tks.ru/db/tnved/tree/c9403700002?searchstr=%EC%E5%E1%E5%EB%FC+%E4%E5%F2#tree_top

Trading Economics. (2014). Finland | Economic Indicators. [online] Available at: <http://www.tradingeconomics.com/finland/indicators>

Trading Economics. (2014). Russia | Economic Indicators. [online] Available at: <http://www.tradingeconomics.com/russia/indicators>

Trading Economics. (2016). Finland Economic Forecasts 2016-2020. [online] Available at: <http://www.tradingeconomics.com/finland/forecast>

Tradingeconomics. (2016). Russia Inflation Rate Forecast 2016-2020. [online] Available at: <http://www.tradingeconomics.com/russia/inflation-cpi/forecast>

Tradingeconomics.com. (2016). Finland Bank Lending Rate. [online] Available at: <http://www.tradingeconomics.com/finland/bank-lending-rate>

Tradingeconomics.com. (2016). Russia Bank Lending Rate Forecast 2016-2020. [online] Available at: <http://www.tradingeconomics.com/russia/bank-lending-rate/forecast>

Tradingeconomics.com. (2016). United States Government Bond. [online] Available at: <http://www.tradingeconomics.com/united-states/government-bond-yield>

UNECE. (2014). Prices - Forestry and Timber. [online] Available at: <http://www.unece.org/forests/output/prices.html>

UNECE. (2014). Prices - Forestry and Timber. [online] Available at: <http://www.unece.org/forests/output/prices.html>

European Union Newsroom. (2016). EU sanctions against Russia over Ukraine crisis. [online]

Available at: http://europa.eu/newsroom/highlights/special-coverage/eu_sanctions/index_en.htm

Veselovsky, M., Suglobov, A., Khoroshavina, N., Abrashkin, M. and Stepanov, A. (2015). Business Angel Investment in Russia: Problems and Prospects. International Journal of Economics and Financial Issues, (5), pp.231-237. In-text: (Veselovsky et al., 2015)

Wallop, H. (2012). Ikea: 25 facts. [online] The Telegraph. Available at: <http://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/9643122/Ikea-25-facts.html>

Wei, K. (1988). An Asset-Pricing Theory Unifying the CAPM and APT. The Journal of Finance, 43(4), p.881.

Wilson, L. (2013). What's The Average Price Of Electricity In.... [online] Clean Technica. Available at: <http://cleantechnica.com/2013/09/30/average-electricity-prices-around-world/>

Worlds Richest Countries. (2015). Top Finland Imports. [online] Available at: http://www.worldsrichestcountries.com/top_finland_imports.html

Worlds Richest Countries. (2015). Top Finland Imports. [online] Available at: http://www.worldsrichestcountries.com/top_finland_imports.html

Xe.com. (2016). XE: Euro Member Countries to Russia Ruble. [online] Available at: <http://www.xe.com/currencyconverter/convert/?From=EUR&To=RUB>

Inflation EU. (2016). Historic inflation Russia – historic CPI inflation Russia. [online] Available at: <http://www.inflation.eu/inflation-rates/russia/historic-inflation/cpi-inflation-russia.aspx>

HKTDC Research. (2013). A Promising Niche Market for Babies' and Children's Products | HKTDC. [online] Available at: <http://economists-pick-research.hktdc.com/business-news/article/Research-Articles/A-Promising-Niche-Market-for-Babies-and-Children-sProducts/rp/en/1/1X000000/1X09SF0R.htm>

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Appendix 1. PESTL analysis for Froggy Home Co. Ltd

Political factors

Finland is the EU member states and can operate in the EU economic space. The EU's main regulatory bodies are European Council, Council of the European Union and European Parliament (Europa.eu, 2016). The information above indicates that political forces in regulation implementation for the EU requires significant time and approval of at least three main bodies; the regulatory bodies can influence trading agreements and restrictions only followed by weighed decisions, assessment of consequences and three-steps procedure for proposals and approvals (Europa.eu, 2016).

National policies, decision-making and administration in Russia are passed through the State Duma and the Council of Federation (Compendium of Cultural Policies and Trends in Europe, 2015). The State Duma has total of 450 members that are elected once in five years, whereas the last elections took place on December 4, 2011 (The U.S.-Russia Business Council, 2016). Despite democratic structure the administration in Russia, also called «hybrid regime» (Kekic, 2007, p.4), is characterized by high-centralized power and collusive behavior (Steen, 2000); nearly 49,32 percent of the votes in the State Duma (The U.S.-Russia Business Council, 2016) are won by United Russia party that is the party of current Russian president Vladimir Putin, thereby providing the tool for prompt legislation passing. The decision making in this system is performed rapidly, impulsively and recklessly with the example of the August 6th 2014 trade ban on the EU agricultural products, while the EU sanctions were imposed «in the absence of de-escalatory steps by the Russian Federation» (European Union Newsroom, 2016). Clearly, new trade agreements and restrictions may be implemented by the Russian state that brings instability and uncertainty to the market situation for future investments, arrangements and development.

In addition, changing in tariffs regulations may affect the commerce significantly. According to GlobalTrade.net (2016), Russia keeps a number of barriers with respect to imports, such as tariffs and tariff-rate quotas, discriminatory and prohibitive charges and fees, and discriminatory licensing, registration and certification regimes. Even though import tariffs on numerous products have been reduced with Russia's intention to enter

WTO, but two other charges applied to imports were increased. For «Froggy Home» company`s products range, the tariffs in Russia and the EU are known; both markets have zero per cent export (Tks.ru, 2016) and import (Pitney Bowes Global Trade Solutions, 2016) tariff respectively.

Economic factors

The GDP value of Finland represents 0,37 % of the world economy (Trading Economics, 2016). Russia`s GDP growth is -0,6 % after the dramatic drop in 2008-2010, and later in the second part of 2014. Regardless of GDP rate, Finland has the highest unemployment rate of 7,7 % with a fluctuation tendency since 2008; unemployment rate for Russia is 5.8 % that dropped from highest since 2010. Interest rates in Finland went lower to zero since second part of 2008. Russia`s interest rates, however, have increased up to 10 % since 2014 and remain high.

Russia has the highest exchange rates that were stable before 2014 and after increased dramatically. Finland has a close to 0,0 negative inflation rate, while Russian`s is equal to 8,1% with highly unstable fluctuation every two years, and current one is in the peak position. Finland has one of the lowers labour costs in Nordic countries. Finland`s productivity index is 102.9. Wages range in Finland is about 3354 Euros. Gasoline prices for Finland and Russia increased in 2014 and started decreasing in January 2016. Russia`s average electricity price for households for year 2011 (Wilson, 2013) has only 0.004 Eurocents difference with Finnish rates in 2014. The leading trade partner of Russia for both - import and export - from Nordic countries is Finland in USD value (International Trade Center, 2014).

Socio-Cultural factors

Finland has the population of 5.5 million people with 15,8 % of young population (0-14 years). Country`s population growth rate 0.5 %. Net migration rate for Finland is 0.62 migrants per 1000 population. Finland`s fertility rate . Mother`s mean age at first birth is 28,4. (Index Mundi, 2014)

Technological factors

According to annual ranking of Bloomberg Innovation Index (Coy and Lu, 2015), Nordic countries placed in the top 30 with the ability to innovate in six equally weighted metrics - R&D intensity, manufacturing value-added, productivity, high-tech density, tertiary efficiency and researcher concentration. Finland is among Nordic countries in the top of the class 2012 index ranking by the Economist (2013) in regards of global innovations and ease of doing business.

According to International Labour Organization (Ciesin.org, 1991), Nordic countries one of the first in Europe started restructuring wood products industries and set numerous changes in enterprises concerning equipment and materials. New composite technology was developed in Finland (Kukk, 2011) beneficial for plywood material that offers significant benefits for mainly furniture manufacturers.

Legal factors

The recession of Russian economy and conflict in Ukraine that led to Russian-EU mutual sanctions; Russia decreed ban from sixth of August 2014 on agricultural products and foodstuffs from the EU, Norway and other countries (European Commission, 2014). The estimates of the EU to Russia export decrease vary from 12.1% to as much as 14.5%, at the same time a longer-term view point estimate up to 2.2 million possible jobs loss (European Parliament, 2015). It is said that the Russian measures have been extended until June 2016 probably bringing new adjustments to sanctions. Wood and products thereof are not in the list of banned products. Furthermore, in 2012 the EU government agreed with Russian Federation on allocation of tariff-rate quotas on export from Russia (Official Journal of the European Union, 2012).

Product safety (in particular furniture for children) is regulated by a number of directives and standards (European Committee for Standardization, 2015) and GPSD (European Commission, 2005). Being a part of EEC, Russia has implemented a directive on safety of furniture products that came into force in 2014 (Eurasian Commission, 2012); safety standards on the products are not harmonized with the EU standards.

Appendix 2. PFF analysis of Froggy Home Co. Ltd

Buyer Power

According to Largest Companies (2014), only 2 % of furniture manufacturers in Finland produce furniture for children that is only 3 companies of 100 listed; 2 of 3 companies make kids furniture of wood, and 1 of 3 - of plywood, thereof substitute products number is insufficient. IKEA, Stoke and Flexa - global Nordic companies with similar range of products - are also presented on the Finnish market; they sell DGFC of mainly combined materials - wood, fiberboard and wood-based panels. Mentioned companies offer more product differences than local companies, and it also brings them an advantage of brand identity. Quality performance of DGFC is on the high level due to the high safety requirements; that could be the reason for relatively high price of the manufacturers, especially with more differentiated products. Consumers of high quality products for children are generally not price sensitive. Buyers concentration verses firms concentration is even; furniture companies mostly located in high density regions - Helsinki and Turku (Best Country Reports, 2014). Buyer of DGFC volume is about 40 % of total population (Index Mundi, 2014).

The author concludes that buyer power for DGFC varies for local and international manufacturers; caused by product differentiation, higher quality and wider service range, buyer power for international manufacturers is lower than for the local ones.

Supplier Power

According to Statista (2014), furniture manufacturers in Finland experienced sales drop from 2012 to 2014. Sales decrease had a significant impact to weaken supplier power in the industry. Nearly for half of total furniture manufacturer`s turnover is spent on similar products, and 2 % is represented by components production. Switching costs of firms and suppliers in the industry is quite common due to high number of local manufacturers (Largest Companies, 2015) and foreign suppliers. Differentiation of inputs may strengthen supplier power, although, as mentioned above, this is mostly relevant for international companies on the market. Supplier power, however, may be weakened by the economies of scale or high-volume orders placed by the international or local

companies. On the report of UNECE (2014), wood prices fluctuate frequently; UNECE reports on price change every month. However, Finland can benefit from importing wood from its biggest wood supplier - Russia (Worlds Richest Countries, 2015) after RUB's latest depreciation.

The author concludes that supplier power for DGFC in Finland is medium caused by switching costs and wood price instability.

Threat of Substitutes

Comparing the available prices of main competitors in DGFC segment - Niemen Tehtaat (2016), IKEA (2016), Stokke (2015) and Flexa (Issu, 2015) - for similar type of product only IKEA has the lowest price (160 Euros) and other three manufacturer keep similar price level (600 Euros). It worth mentioning that IKEA uses less solid wooden elements and frequently replaces it with cheaper materials. Switching costs is generally possible for the whole DGFC industry. However, buyer propensity to substitute is estimated as low since the average price range on DGFC remains stable for all the main competitors, and products' differentiation is not so diverse; the products have outstanding designers details giving a feeling of uniqueness to its buyers. Thereof, threat of substitution for DGFC in Finland is low.

Entry Barriers

Companies entering DGFC industry must consider capital required to operate in the business. If material suppliers and manufacturing site can be provided through subcontracting agreements, but designing skills and expertise requires investments into knowledge and information. Lahtinen et al. (2014) discovered that customers are willing to pay for wooden furniture by reason of design quality. Brand identity plays a remarkable role for buyers via communicating product's value proposition. Driven by cost-efficiency, companies are trying to reach economies of scale and absolute cost advantage, but there is a difficulty to reach it for distinct and sometimes exclusive pricey products. This approach is effective in case of a single access to distribution in large volume, for example, expected retaliation to kindergartens, kids room in hospitals, malls, churches and others. Governmental safety regulations that have been mentioned in the previous

chapter, are setting additional barrier for entry; furniture for children must comply with strict safety rules, and they must be maintained constantly on the highest level.

As a result, entry barriers are quite demanding in DGFC industry.

Competitive Rivalry

Using of raw materials in home design grows rapidly (Lorenz, 2016), so does the industry. The research performed by Lahtinen et al. (2014), illustrated that a sufficient number of companies take «green» concept into account. Brand identity is extremely important in the rivalry, thus major brands copyright on their designs (Salvador et al., 2014).

Niemen Tehtaat is a family-owned furniture company, one of the largest in Finland (Niemen Tehtaat, 2016). The company produces wide range of furniture products not only for private houses, but also of nurseries, kindergartens, et cetera. The products are originated in traditional coherent Finnish design trends from long-term orienter high-quality materials that represents its ethical value. The company`s main focus on domestic market is to develop new products and product lines, and have high customer orientation strategy. The company is ranked 22nd among Finnish furniture companies by its turnover in 2015.

IKEA in Finland is one of the leading furniture retailers. their sales increase by 19 % on the market (Industry Finland, 2011). As in any region, IKEA strongly relies on the brand and «pursue their network strategies through R&D joint ventures, cross-licensing, or strategic alliances» (Baraldi, 2008, p.101). The retailer has about 200 different furniture items for children from 0 to 13 years old (IKEA, 2016). With high number of differentiated products, IKEA keeps its leading position on the market, but ranked only 22nd by turnover on Finnish market. IKEA has customer loyalty system, and consumers are attracted by special offers and cheap prices, but «green» concept is lacking; 60 % of products are derived from the forest (Wallop, 2012).

Stokke focuses exclusively on on selling premium children`s highchairs, strollers and beds, operating since 1932. Stokke`s products are designed for children from 0 to 10 years. The company is one of the leading suppliers in the EU and has an annual sales

growth rate about 30% in the past three years (Sectoral e-business Watch, 2008). Company has less differentiated products range, but guarantees using high-quality wood and varnish to maintain safe environment for children from 0 to 10 years old (Stokke, 2016). Stokke has no official store in Finland, but distributes its product via 62 resellers. Stokke uses long-term oriented smart design concept to produce sustainable products and ensures functionality, exceptional ergonomics and unparalleled comfort.

Flexa is a Danish children`s furniture retailer that creates contemporary Scandinavian interiors for kids, operating through one official dealer in Finland. The design concept is similar to Stokke, but products differentiation - to IKEA. Company`s mission is to apply knowledge about kids to design and distribute functional, playful and sustainable interior solutions at affordable prices (Flexa, 2016). Flexa implies «green» concept in purchasing materials, design, manufacturing and recycling processes.

Competitors are not diverse on the market, but the products of each company are unique and distinct that brings customer loyalty and brand recognition element into competition. Thereof, medium rivalry is clearly distinguished in the DGFC industry.

Appendix 3. SWOT analysis for Froggy Home Co. Ltd

Strengths

Eco-design expertise - holding obtained knowledge and collected expertise in the latest tendencies of DGFC is the most valuable specialty for the company. Expertise is secured within the company and can be protected via splitting the order at several suppliers. Modern parents requirements` put additional pressure on designers to maintain the quality and use «green» concept in producing furniture, and require functionality as a gaming element. «Two in one» concept increases emotional value of products and its marketing power.

Costs minimizing advantage - as design company with manufacturing sites and suppliers are based in Russia, «Froggy Home» can provide an opportunity for retailers to outsource from the developing economy efficiently and exchange for higher prices in the EU.

Original eco-materials from Siberian forest - since customers expectations for DGFC are not only about functionality and aesthetics, but also about durability, ecology and quality, they must be completely fulfilled. Generally, in any production raw materials excellence affects the overall safety of the process, production line functionality and output`s quality. Basic material quality was the main concern of «Froggy Home`s» while considering outsourcing from China. Therefore, to comply with Finnish market standards, this important VC element must remain prioritized for the company.

Convenient transportation lines - cargo can reach Finland from Saint Petersburg by all three modes of transport: aviation, ship and land transport. By land it has about 350 kilometers to reach Helsinki and this is the most cost-efficient mean of transport, moreover logistic schemes of transportation of wood and products thereof already exist and in function (International Trade Center. (2014).

Products similarity to European segment - eco-design orientation on EU DGFC trends is a step towards further strategic expansion on the market. It is definitely easier to promote products with similar concept, design and values for experienced customers. Moreover,

tracking new design and manufacturing innovations and features helps maintaining product quality and development to meet buyers' expectations.

Stable materials supplier network - stable and guaranteed consignments by long-term agreement with supplier of the core material for manufacturing brings advantage for manufacturing and secure product quality. For future expansion purposes, strong long-term relationships with selected suppliers is the key for bigger achievements (Baraldi, 2008).

Accessibility to showroom - by being able to demonstrate finalized products to customers before placing the order, it is beneficial for end customers and future partners and sub-contractors.

Weaknesses

Need in investors - starting new business with focus on export to EU requires certain investments to accelerate production process and sales expansion. Lack on funding may result in losing the perfect opportunities to enter the market in good time with precisely prepared strategy. Also, financing inflows are extremely important for major company's investments in registering a patent, purchasing materials, performing logistics operations and improvements.

Founders' funds are the only source of capital - company's co-founder emphasizes the need for external funding due to lack of own's capital inflow. This obstacle may weaken established business cooperation with suppliers and lead to inability to perform expansive business operations.

Absence of established Value Chain activities – Value Chain Framework suits company's strategic needs for production establishment, development and market expansion. This Framework is essential for development and expansion, especially in terms of international strategy (Hedemann and Nissen, 2013), thereof absence of one brings critical uncertainty to developing business.

No long-term manufacturing agreements - unlike suppliers agreement, the company does not have long-term manufacturing agreements. To achieve expansion goals, agreement with production plants or establishment of manufacturing facilities is required. While the second option requires more investments, permanent contracts with factories bring flexibility that is necessary for new business. Otherwise, local producer may easily manipulate the prices, especially under urgent order if once production volume is increased.

Absence of finalized price-list - financial operations is a part of primary activities according to Value Chain that cannot be performed efficiently without a price-list. Preliminary versions of price-list based on approximate estimations must be created to serve as reference for company`s negotiations with manufacturers, potential partners and end customers. Modifications and reviewing may be scheduled for adjustment towards final version.

Opportunities

Ruble weakness on FX market gives advantage to exporters - Ruble severe depreciation in December 2014 (Kitroeff and Weisenthal, 2014) was a clear sign for upcoming economic hardship. However, for new entry strategy of Froggy Home Co.Ltd this brings benefits for Finnish partners to import products from Russia.

Customized product - DGFC is new, but growing and developing segment in the industry. Since products of «Froggy Home» are partially customized towards customers needs, additional improvement, functional and design adjustments bring innovation and novelty to product and business development, increasing customer satisfaction and product value.

Participation in exhibitions and fairs - participation in local and foreign fairs and exhibitions helps to promote brand, product concept and attract investors, partners and buyers. «Froggy Home» has won its first award (Art League, 2014) and received positive comments for further improvement of their collection, that help strengthen their position in business.

Constant product development - design innovation and creative solutions for common furniture items are highly valuable for furniture industry, especially for DGFC. With constant improvements of design, approach towards eco-materials and expertise, the company is able to raise the level of its proficiency and competitive advantage.

Cooperation agreements - the company is open for new cooperation opportunities to establish joint-venture, cross licensing or strategic alliances to access Finnish market.

Obtaining a patent - to protect company's intellectual property, founders need to register a patent before signing any foreign cooperation agreement. Although patent requires sufficient investments and time, but secure brand's portfolio and identity.

Threats

Political instability - according to The Global Economy (2014), political stability in Russia is weak. Business relationship along with civilians are normally heavily affected by country's instability. Political uncertainty is a macro level threat and cannot be predicted. However, tracking and forecasting of relevant events and developing procedures or additional agreements may support business in critical cases.

Economical instability which may affect the price - economic instability brought by sanctions and currency depreciation in 2014 affected inflation increase (Statista, 2016). Although forecasts trends are positive, but due to political instability the uncertainty is still high. Repetitive currency drop may cause another increase of inflation rate and price increase for multiple basic products. Threat of economical instability consequences, however may be reduced through proper financial measures.

Safety requirements for EU market - safety standards for DGFC is much higher than in Russia. Following EU requirements does not only imply expenses on mandatory testings of finalized products, but also batch-release tests on production site and other during-production testing and checking. Sub-contracted manufacturing facilities also need to be

involved in the whole process and certain agreements must be reached on these regarding with managers of the production site.

Investments into patent - registering of patent requires significant funding. According to company's profile, owners' financing is not enough, and the need in investors is strong. «Froggy Home» must find a way to fund patent registration to protect its intellectual property before foreign sales expansion.

Comparatively narrow customer segment - potential buyers for DGFC is a relatively small number of total population of Finland. Mostly only young parents with stable income ready to invest into new conceptual furniture items. Lack of buyers may result in negative sales and failure of business, therefore in a long-run company needs to develop a counter strategy.

Comparatively narrow products segment - «Froggy Home» needs to maintain both selling strategies: keeping old customers and attracting new ones. New buyers can be attracted by new functional solutions and designs, but functional high-quality furniture items definitely will not require often replacement. However, the company can develop additional service, for example old-product repair, renovation, design renewal and improvement.

Appendix 4. Income statement for the period of 2018 of Froggy Home Co. Ltd

Income statement in RUB for the end of 2018			
	Sales		1249900,00
	less:		
	Direct labour	256800,00	
	Direct materials	311736,70	
	Total direct costs		568536,70
Gross profit			681363,30
	Expenses:		
	show-room rent	900000,00	
	logistics	207350,00	
	other expenses	90000,00	
	total expenses		1197350,00
Operating profit			-515986,70
Net Income			-515986,70

Appendix 5. Income statement for the period of 2019 of Froggy Home Co. Ltd

Income statement in RUB for the end of 2019			
	Sales		1374890,00
	less:		
	Direct labour	277344,00	
	Direct materials	342910,37	
	Total direct costs		620254,37
Gross profit			754635,63
	Expenses:		
	show-room rent	954900,00	
	logistics	228085,00	
	other expenses	95490,00	
	total expenses		1278475,00
Operating profit			-523839,37
Net Income			-523839,37

Appendix 6. Income statement for the period of 2020 of Froggy Home Co. Ltd

Income statement in RUB for the end of 2020			
	Sales		1581123,50
	less:		
	Direct labour	310625,28	
	Direct materials	394346,93	
	Total direct costs		704972,21
Gross profit			876151,29
	Expenses:		
	show-room rent	477450,00	
	logistics	262297,75	
	other expenses	47745,00	
	total expenses		787492,75
Operating profit			88658,54
Corporate taxation (20%)			17731,71
Net Income			70926,84

Appendix 7. Income statement for the period of 2021 of Froggy Home Co. Ltd

Income statement in RUB for the end of 2021			
	Sales		1897348,20
	less:		
	Direct labour	357219,07	
	Direct materials	473216,31	
	Total direct costs		830435,38
	Gross profit		1066912,82
	Expenses:		
	show-room rent	506574,45	
	logistics	314757,30	
	other expenses	50657,45	
	total expenses		821331,75
	Operating profit		245581,07
	Corporate taxation (20%)		49116,21
	Net Income		196464,85

Appendix 8. Income statement for the period of 2022 of Froggy Home Co. Ltd

Income statement in RUB for the end of 2022			
	Sales		2371685,25
	less:		
	Direct labour	428662,89	
	Direct materials	591520,39	
	Total direct costs		1020183,27
Gross profit			1351501,98
	Expenses:		
	show-room rent	537475,49	
	logistics	393446,63	
	other expenses	53747,55	
	total expenses		984669,67
Operating profit			366832,31
Corporate taxation (20%)			73366,46
Net Income			293465,85
Terminal Value			2004548,14
Total			2298013,99

Appendix 9. Example of products of Froggy Home Co. Ltd





