INSTITUTO
UNIVERSITÁRIO
DE LISBOA

Equity Valuation of The Loop Co

Pedro Morgado Mendes

Master in Finance

Supervisor:
PhD Pedro Manuel de Sousa Leite Inácio, Assistant Professor
ISCTE Business School

October, 2021

BUSINESS
SCHOOL

Department of Finance

Equity Valuation of The Loop Co

Pedro Morgado Mendes

Master in Finance

Supervisor:
PhD Pedro Manuel de Sousa Leite Inácio, Assistant Professor
ISCTE Business School

October, 2021

Sumário

The Loop Co é um grupo que começou como uma única empresa, focada na economia circular através do e-commerce. Desde a sua fundação, a empresa tornou-se num grupo com participação em 4 empresas, que têm como principais segmentos de negócio o e-commerce e as TIC, mantendo sempre o foco na economia circular. Tendo em conta a situação presente no mundo, a economia circular, e-commerce e as TIC tornaram-se essenciais na vida das pessoas. Tendo isto em conta, é de enorme interesse avaliar um grupo não cotado que tem como foco de negócio, os segmentos mais essenciais neste momento. O grupo foi avaliado por segmento (e-commerce e TIC) e como um todo. Foram efetuados 2 tipos de avaliação o método do DCF e da avaliação relativa.

Dado que os 2 modelos usam abordagens diferentes, os resultados obtidos não foram os mesmos. Como o grupo não é cotado, os valores obtidos através da avaliação relativa foram considerados os resultados que deveriam ser esperados tendo em conta o mercado e os dados financeiros do grupo.

Concluiu-se que o grupo como um todo está a produzir de acordo com o esperado, pois os resultados obtidos pelos modelos foram similares. No entanto, também se comprovou que ao nível dos segmentos podem ter uma melhor performance, especialmente no das TIC. O valor obtido para uma IPO foi um valor entre 17,673,519.42€ e 18,771,515.84€.

Em suma, apesar do grupo estar a produzir o esperado, deve esperar antes de se tornar cotado, pois os segmentos ainda podem melhorar.

Keywords: The Loop Co; Company Valuation; Discounted Cash Flows; Relative Valuation

JEL Classification: G30 – Corporate Finance; G32 – Value of Firms

Abstract

The Loop Co is a group that started as a single company focused on circular economy through e-commerce. Since then, the single company has become a group with participation in 4 companies, whose main business segments are e-commerce and ICT maintaining its focus on circular economy. With the situation that is present in the world, circular economy, e-commerce and ICT became essential in the life of the people.

Therefore, it is of tremendous interest to evaluate a non-listed group that has as main focus the essential segments in the world right now. This evaluation was done by segment (e-commerce and ICT) and considering the group as a whole. To do so, 2 valuation types were carried out, the DCF model and relative valuation.

As the 2 models use different tools, the results obtained by them were different. As the group is not listed, the values obtained through relative valuation are regarded as the most relevant, considering the market and the group financial data.

It was seen that the group as a whole is performing according to their budget expectations, as the results obtained by the models were very similar. However, it was also possible to see that the segments, especially ICT could be performing better. The value achieved for an IPO of the group was a value between 17,673,519.42€ and 18,771,515.84€.

It was concluded that, besides the results of the group being similar to the ones expected, the group should wait before becoming listed, as its segments can still improve their performance.

Keywords: The Loop Co; Company Valuation; Discounted Cash Flows; Relative Valuation

JEL Classification: G30 – Corporate Finance; G32 – Value of Firms

Acknowledgments

Firstly, I would like to present my gratitude to my parents for the investment that they made in my education, and for letting me choose my path even if that meant a greater effort for them.
I would also like to thank the support that I had from my family and friends during this very important period of my life. A huge thank you to my uncles who accepted me into their home during these years.
A very special thanks to Mafalda, for never letting me give up and for all the encouragement that she gave me to help me become an even better person and student.
To professor Pedro Inácio, a major acknowledgement for all the help and inputs that contributed to achieve the final result of this thesis.
Finally, I would like to thank The Loop Co., in the person of Catarina and Ricardo, for giving me the financial data of the company that allowed me to do this project.

Index

Sumário i
Abstract iii
Acknowledgments v
Figures Index ix
Tables Index ix
Formulas Index xi
Appendixes Index xiii
List of Acronyms xv
Introduction 1
1. Literature Review 3
1.1 Valuation 3
1.1.1 Discounted Cash Flow Valuation Method (DCF) 4
1.1.1.1 Free Cash Flow to Equity (FCFE) 4
1.1.1.2 Free Cash Flow to the firm (FCFF) 5
1.1.1.3 Risk-free Asset 5
1.1.1.4 Equity Risk Premium 6
1.1.1.5 Beta Coefficient 6
1.1.1.5 Cost of Equity (Ke) 7
1.1.1.6 Cost of Debt (Kd) 7
1.1.1.7 Weighted Average Cost of Capital (WACC) 7
1.1.1.8 Terminal Value 8
1.1.1.9 Economic Value Added (EVA) 8
1.1.1.10 Return on Invested Capital (ROIC) 8
1.1.1.11 Net Operating Profit Less Adjusted Taxes (NOPLAT) 8
1.1.1.12 Valuation of young or start-up firms 9
1.2 Multiples 9
1.2.1 Price Earnings Ratio (PE) 9
1.2.2 Price Earnings to Growth Ratio (PEG) 9
1.2.3 Enterprise Value to EBITDA multiple (EV/EBITDA) 10
1.2.4 Price to Book ratio (PBV) 10
1.2.5 Value to Book Ratio 10
1.2.6 Price to Sales Ratio 10
1.2.7 Enterprise Value to Sales Ratio (EV to Sales Ratio) 11
2. Industry Overview 13

2.1 E-commerce Industry 13
2.2 ICT Industry 15
3. Company Overview 17
3.1 Company's History 17
3.2 Business Segments 18
3.3 Ownership Structure 21
3.4 The Future of The Loop Co 22
4. The Loop Co Valuation 23
4.1 Valuation Assumptions 23
4.1.1 Revenues 23
4.1.2 Cost of Revenues 26
4.1.3 Other Revenues and Expenses 28
4.1.4 Depreciation and Amortization 29
4.1.5 Earnings Before Interest and Taxes (EBIT) 30
4.1.6 Effective Tax Rate 30
4.1.7 Capital Expenditures (CAPEX) 31
4.1.8 Working Capital (WC) 31
4.2 Discounted Cash Flow of The Loop Co. 31
4.2.1 Free Cash Flow to the Firm (FCFF) 32
4.2.2 Cost of Debt 33
4.2.3 Cost of Equity and WACC 33
4.3 Discounted Cash Flow - Valuation Results 34
4.4 Relative Valuation 36
4.5 Discounted Cash Flow vs Relative Valuation 39
4.6 Sensitivity Analysis 40
5. Conclusion 43
6. References 45
6.1 Articles and Books References 45
6.2 Reports 45
6.3 Internet References 46
6.4 DataBases 47
7. Appendixes 49

Figures Index

Figure 1 - Ownership Structure of each company - Author's own illustration 21

Tables Index

Table 1 - Sales, Cost of Revenues and EBITDA of all companies in 2020 20
Table 2 - Sales, Cost of Revenues and EBITDA of all companies in 2021 20
Table 3- Book in Loop growth rate 2020-2025F 23
Table 4 - Book in Loop revenues 2019-2025F 24
Table 5 - Loop Circular growth rate 2021F-2025F 24
Table 6 - Loop Circular Revenues (in million €) 2019-2025F 24
Table 7 - Loop Future growth rate 2021F-2025F 25
Table 8- Loop Future Revenues (in million €) 2020-2025F 25
Table 9- Bild Analytics growth rate 2019-2025F 25
Table 10 - Bild Analytics Revenues in million € 2019-2025F 26
Table 11 - The Loop Co Revenues (in million €) 2017-2025F 26
Table 12 - FCFF of the group 2021F-2025F (in million €) 32
Table 13 - Cost of Equity and WACC of both segments and The Loop CO 33
Table 14 - E-Commerce Equity Value (DCF) in million € 34
Table 15 - ICT Equity Value (DCF) in million € 34
Table 16 - The Loop Co Equity Value (DCF) in million € 34
Table 17- The Loop Co Equity Value (DCF), with holding discount, in million € 35
Table 18 - E-commerce Equity Value (Relative Valuation) in million € 37
Table 19 - ICT Equity Value (Relative Valuation) in million € 37
Table 20 - The Loop Co Equity Value (Relative Valuation) in million € 37
Table 21 - The Loop Co Equity Value (Relative Valuation), with non-listed discount, in million € 38
Table 22 - Equity values of segments and group according to al methods (in million €) 39
Table 23 - Sensitivity Analysis E-commerce – g and WACC (in million €) 40
Table 24 - Sensitivity Analysis ICT – g and WACC (in million €) 40
Table 25 - Sensitivity Analysis The Loop Co – g and WACC (in million €) 41

Formulas Index

Formula (01) - NPV 4
Formula (02) - Company Value 4
Formula (03) - FCFE 4
Formula (04) - FCFE Alternative 4
Formula (05) - Value of Equity 5
Formula (06) - FCFF 5
Formula (07) - FCFF Alternative 5
Formula (08) - Value of Firm 5
Formula (09) - Beta 6
Formula (10) - Slope of Regression 6
Formula (11) - Cost of Equity 7
Formula (12) - Cost of Debt 7
Formula (13) - WACC 8
Formula (14) - Terminal Value 8
Formula (15) - EVA 8
Formula (16) - ROIC 8
Formula (17) - NOPLAT 8
Formula (18) - Price Earings Ratio 9
Formula (19) - Price Earnings to Growth Ratio 9
Formula (20) - EV/EBITDA 10
Formula (21) - Price to Book Ratio 10
Formula (22) - Value to Book 10
Formula (23) - Price To Sales Ratio 10
Formula (24) - EV to Sales Ratio 11
Formula (25) – Economy Pace 23
Formula (26) - EBIT 30
Formula (27) - Beta Levered 33

Appendixes Index

Appendix A - Cost of Revenues Book in Loop– in Million € 49
Appendix B - Cost of Revenues Loop Circular– in Million € 49
Appendix C - Cost of Revenues Loop Future– in Million € 49
Appendix D - Cost of Revenues Bild Analytics– in Million € 49
Appendix E - Cost of Revenues The Loop Co– in Million € 49
Appendix F - Other Revenues and Expenses Book in Loop– in Million € 50
Appendix G – Other Revenues and Expenses Loop Circular – in Million € 50
Appendix H – Other Revenues and Expenses Loop Future – in Million € 50
Appendix I – Other Revenues and Expenses Bild Analytics– in Million € 50
Appendix J – Other Revenues and Expenses The Loop Co. – in Million € 51
Appendix K – Depreciation and Amortization of all companies and the group– in Million € 51
Appendix L – EBIT of all companies and the group – in Million € 51
Appendix M – Tax Rate of all companies and the group 51
Appendix N – Capex of all companies and the group – in Million € 52
Appendix O – Working Capital of all companies and the group – in Million € 52
Appendix P – FCFF of E-commerce segment – in Million € 52
Appendix Q – FCFF of ICT segment – in Million € 52
Appendix R – Cost of debt of both segments and the group 53
Appendix S - Historical Income Statement of Book in Loop 53
Appendix T – Historical Balance Sheet of Book in Loop 54
Appendix U - Future Income Statement Book in Loop 73
Appendix V – Future Values of Tangible and Intangible Assets of Book in Loop 73
Appendix W– Future Values of Current Assets of Book in Loop 73
Appendix X – Future Values of Current Liabilities of Book in Loop 73
Appendix Y - Historical Income Statement of Loop Circular 74
Appendix Z – Future Income Statement Loop Circular 74
Appendix AA - Historical Balance Sheet of Loop Circular 75
Appendix AB – Future Values of Tangible and Intangible Assets of Loop Circular 76
Appendix AC – Future Values of Current Assets of Loop Circular 76
Appendix AD – Future Values of Current Liabilities of Loop Circular 76
Appendix AE - Historical Income Statement of Loop Future 76
Appendix AF - Historical Balance Sheet of Loop Future 77
Appendix AG - Future Income Statement of Loop Future 78
Appendix AH – Future Values of Tangible and Intangible Assets of Loop Future 78
Appendix AI – Future Values of Current Assets of Loop Future 78
Appendix AJ – Future Values of Current Liabilities of Loop Future 78
Appendix AK - Historical Income Statement of Bild Analytics 79
Appendix AL - Future Income Statement Bild Analytics 79
Appendix AM - Historical Balance Sheet of Bild Analytics 80
Appendix AN – Future Values of Tangible and Intangible Assets of Bild Analytics 81
Appendix AO – Future Values of Current Assets of Bild Analytics 81
Appendix AP - Future Values of Current Liabilities of Bild Analytics 81
Appendix AQ - Historical Income Statement of The Loop Co 81
Appendix AR - Historical Balance Sheet of The Loop Co 82
Appendix AS - Future Income Statement The Loop Co 83

Appendix AT – Future Values of Tangible and Intangible Assets of The Loop Co..... 83
Appendix AU – Future Values of Current Assets of The Loop Co 83
Appendix AV – Future Values of Current Liabilities of The Loop Co 83

List of Acronyms

APM - Arbitrage Pricing Model

APV - Adjusted Present Value

CAPEX - Capital Expenditures

CAPM - Capital Asset Pricing Model

D/E - Debt to Equity Ratio

DCF - Discounted Cash Flow

EBIT - Earnings Before Interests and Taxes

EBITDA - Earnings Before Interests, Taxes, Depreciation and Amortization

EQV - Equity Value

ERP - Equity Risk Premium

EV - Enterprise Value

EVA - Economic Value Added

FCFE - Free Cash Flow to Equity

FCFF - Free Cash Flow to the Firm

ICT - Information and Communications Technology

NOPLAT - Net Operating Profit Less Adjusted Taxes

NPV - Net Present Value

P/S – Price to Sales Ratio

R&D - Research and Development

ROIC - Return on Invested Capital

S&A - Selling and Administrative

TGR - Total Growth Rate

TIC – Tecnologias da Informação e da Comunicação

TV - Terminal Value

WACC -Weighted Average Cost of Capital

WC - Working Capital

Introduction

For an investor to know the value to pay for a share of a company, or for the shareholders of a company to know the fair value of the company that they invested in, it is important to realize a fair valuation of the company in question. With this in mind, the goal of this project is to realize a valuation of Loop Co equity. Hence the fair value obtained will provide information to the company if it is a good opportunity to list the company on the stock exchange.

The decision of evaluating this company comes up by putting together the situation in the world and the company's main business segments. This company has as its main sectors e-commerce and ICT. Besides these segments, the company has a strong involvement in the circular economy. Combining these segments with the pandemic shows the relevance of valuing a firm whose business field consists of the aforementioned segments. These sectors had a boost with the pandemic as most people were not able to leave their homes or because it was important to develop solutions to achieve better software to adapt life to this situation. The circular economy was also impacted because the financial crisis imposed on people the need to buy products which were not completely new.

In this sense, the beginning of the project is composed by the literature review where it is presented theoretical information according to different authors about methods and tools used in a valuation of a company. The next step is an analysis of the industry where the company has its bases. Following this topic, we have an overview of the company itself that contains a brief history of the company, its business segments and products, and their shareholders.

The last step is to collect and organize the company's financial data to evaluate it. To obtain the fair value of the company through the process of valuation it is necessary to define, before starting the evaluation, the main assumptions, analyze some market elements, and select the methods to evaluate the company. In the end, it is important to compare the results obtained with the 2 different methods to understand where the company is situated concerning the market. In this comparison, it is also done a sensitivity analysis to study the impact of a small change in WACC and g, and also what are the values of these variables that permit the most similar EQV between DCF and multiples approach.

1. Literature Review

1.1 Valuation

Independently of being financial or real, every asset has a value. The secret to invest and manage successfully these assets consists in understanding the value, as well as its sources (Damodaran, 2002).

According to Damodaran (2002), valuation can be useful in different roles as portfolio management, acquisition analysis and corporate finance.

Regarding portfolio management, Damodaran (2002) states that the role played by valuation is determined by the investment philosophy of the investor, concluding that valuation plays a larger role as the more active the investor is.

In relation to acquisition analysis, Damodaran (2002) emphasizes that valuation has an essential role, because it can decide the action the bidding firm is going to take regarding the proposal to buy, and also if the selling firm accepts or rejects the proposal. Koller et al (2015) also point that companies that present a greater return on capital than their cost of capital, are creating value. Damodaran (2002) states that firms have to take in account some factors in relation to valuation as the synergy on the combined value of both firms, effects caused by changing management and restructuring the target firm. Finally, Damodaran (2002) points to a significant problem in takeover valuation, which is the fact that target firms are very optimistic in estimating value.

Lastly, Damodaran (2002) affirms that the goal of corporate finance is to maximize the value of the firm, being necessary to delineate the relationship between financial decisions, corporate strategy and firm value. Koller et al (2015) state that companies that confuse maximizing short-term profit and creating shareholder value, put both at risk. Damodaran (2002) also emphasizes that the key to making value-increasing decisions is to understand the relationship between the value of the firm and its projects, the way that these projects are financed and its dividend policy.

In conclusion, Damodaran (2002) explains that valuation is not an objective exercise, because all of the preconceptions and biases that the analyst has are factors that will contribute to the computation of value.

1.1.1 Discounted Cash Flow Valuation Method (DCF)

According to Koller et al (2015), the valuation of the company is based on the net present value (NPV) of its future free cash flows, which are discounted at an appropriate discount rate.

$$NPV = \sum_{t=0}^{n} \frac{FCFt}{(1+r)^t} \quad (1)$$

Steiger (2008) also states a different possibility to analyze a company's value using discounted cash flows is the adjusted present value (APV). APV is a very similar to NPV but it first only considers pure equity financing and then adds the present value of any financing side effect (Steiser, 2008)

Steiger (2008) still emphasizes that the process of valuing a company with the DCF method has different stages, like predicting future free cash flows, determining the weighted average cost of capital (WACC) and identifying the terminal value.

$$Company\ Value = NPV + Terminal\ Value\ (2)$$

Koller et al (2015) add that it is also needed to compute the value of non-operating assets, debt and nonequity claims. Koller et al (2015) finalize by emphasizing that in order to calculate the value of common equity the value of the sum of debt and other nonequity claims should be subtracted from the enterprise value.

1.1.1.1 Free Cash Flow to Equity (FCFE)

Damodaran (2002) emphasizes that FCFE is the conversion of the net income to a cash flow by subtracting out a firm's reinvestment needs, being that the cash flow available to be paid out as dividends or stock buybacks.

$$FCFE = Net\ Income - (\ Capital\ Expenditures - Depreciation) - (Change\ in\ Non - Cash\ Working\ Capital) + (New\ Debt\ Issued - Debt\ Repayments)\ \ (3)$$

Damodaran (2002), affirms that there is a simple way to calculate FCFE if net capital expenditures (Capital Expenditures - Depreciation) and working capital changes are financed by a fixed mix of debt (δ) and equity.

$$FCFE = Net\ Income - (Capital\ Expenditures - Depreciation)(1 - \delta) - (Working\ Capital)(1 - \delta)\ \ (4)$$

Damodaran (2002), states that the value of the firm according to this approach is equal to the value of the FCFE discounted at the cost of equity (rate of return required by equity investors in the firm).

$$Value\ of\ Equity = \sum_{t=1}^{t=n} \frac{FCFEt}{(1+ke)^t} \quad (5)$$

1.1.1.2 Free Cash Flow to the firm (FCFF)

Abate and Grant (2001), affirm that the sum of the cashflows to all claim holders in the firm is the FCFF and there are two ways of measuring it. The first one, according to Damodaran (2002), is to add up the cashflows to the claim holders.

$$FCFF = FCFE + Interest\ Expense\ (1 - tax\ rate) + Principal\ Repayments - New\ Debt\ Issues + Preferred\ Dividends \quad (6)$$

Damodaran (2002) states that the second way, and a simpler one, is to estimate the cash flows prior to any of these claims.

$$FCFF = EBIT\ (1 - tax\ rate) + Depreciation - Capital\ Expenditure - \triangle Working\ Capital \quad (7)$$

So, the value of the firm by this approach, according to Koller et al (2015), is achieved by the sum of the discounted expected cash flows to the firm at the weighted average cost of capital

$$Value\ of\ Firm = \sum_{t=1}^{t=n} \frac{FCFFt}{(1+WACC)^t} \quad (8)$$

1.1.1.3 Risk-free Asset

Oosthuizen et al (2013) emphasize that an asset to be risk-free has to have certainty in expected returns, meaning that the actual return has to be always equal to the expected return. In order for this to happen, Damodaran (2002) states that the asset has to meet some conditions. The first one is that there cannot be default risk, meaning that the only securities with a chance to be risk free are government securities. In the second condition, Damodaran (2002) affirms that it cannot be exposed to reinvestment risk.

1.1.1.4 Equity Risk Premium

The equity risk premium is the representation of the surplus of the expected return on the stock market over the risk-free rate (Claus et al, 1999). However, Damodaran (2002) states that how the risk is measured and how the risk measure is converted into an expected return that compensates for risk is where the disagreement remains.

In order to estimate an appropriate risk premium to use, there are different risk and return models. **CAPM** (Capital Asset Pricing Model) that according to Koller et al (2015), defines the risk of a stock as its sensitivity to the market as a whole. Damodaran (2002) also states that the measure of market risk is done by measuring beta against the market portfolio. **APM** (Arbitrage Pricing Model) where Koller et al (2015) affirm that investments that have the same exposure to market risk have to trade at the same price and that the measure of market risk is done by measuring beta against multiple market risk factors. And, finally, the **Multi-Factor Model** that Damodaran (2002) emphasizes that this model has the same assumptions of APM and that in order to measure Market Risk the betas are measured against multiple macro-economic factors.

1.1.1.5 Beta Coefficient

According to Isakov (1997), beta is a good measure of risk and is strongly related to return. In order to estimate betas, Koller et al (2015) emphasize that the standard procedure is to regress stock returns (Rj) against returns on the market (Rm),

$$R_j = a + bR_m \quad (9)$$

where a is the intercept from the regression and b the slope of the regression, being this one equal to

$$\frac{COV(R_j,R_m)}{\sigma_m^2} \quad (10)$$

According to Damodaran (2002), the beta in the CAPM is the risk added by the investment to a market portfolio, while in APM and Multi-factor model, every beta of each factor has to be measured.

1.1.1.5 Cost of Equity (Ke)

Damodaran (2002) affirms that the cost of equity can be defined by the rate of return that investors require on an equity investment in a firm. Koller et al (2015) define that the cost of equity is the most difficult component of WACC to compute. According to Steiser (2008), the cost of equity is determined with the help of the capital asset pricing model (CAPM).

$$Expected\ Return = Riskfree\ Rate + \beta_j\ (Risk\ Premium_j) \quad (11)$$

1.1.1.6 Cost of Debt (Kd)

Steiser (2008) emphasizes that the cost of the debt measures the interest that the company has to pay in the outstanding debt. Koller et al (2015) state that the cost of debt should be determined by several variables. **The riskless rate**, as the riskless rate increases, the cost of debt also increases.; **Default risk**, where the larger the default risk, the larger the cost of debt. And, finally, the **tax advantage associated with debt**, that since the interest is tax deductible, the after-tax cost of debt is also a function of the tax rate.

$$After\ tax\ cost\ of\ debt = Pre - Tax\ cost\ of\ debt\ (1 - tax\ rate) \quad (12)$$

1.1.1.7 Weighted Average Cost of Capital (WACC)

Steiser (2008) affirms that the rate used to discount the free cash flows is called WACC, and that is one of the most important factors in the DCF model, because a small change in this rate will affect largely the firm value. Steiser (2008) also affirms that the computation of the WACC is done by weighting the sources of capital of the company and then multiplying by their respective costs.

$$WACC = k_d(1 - t) * \frac{D}{D+E} + k_e \frac{E}{D+E} \quad (13)$$

1.1.1.8 Terminal Value

Steiser (2008) states that the NPV of all future cash flows that accrue after the time period where the scenario analysis happens is the definition of terminal value. The terminal value's growth rate is assumed constant and that this perpetual growth rate, together with WACC as discount rate, allow the use of a simple dividend (or cash flow) model to determine the terminal value according to Steiser (2008).

$$TV = \sum_{n=1}^{\infty} \frac{FCF_{TV}(1+\delta)^n}{(1+r)^n} = \frac{FCF_{TV}(1+\delta)}{(r-\delta)} \quad (14)$$

1.1.1.9 Economic Value Added (EVA)

EVA is the net profit of a firm after the deduction of the cost of the employed (or invested) capital, being in this way a better measure of company performance than accounting profit (Brealey et al, 2001). This definition, according to Geiser et al (2003), delineates the inputs needed to the EVA computation, such as the cost of capital, the capital invested in those investments and their return of capital.

$$EVA = (Return\ on\ Capital\ Invested - Cost\ of\ Capital)(Capital\ Invested) \quad (15)$$

1.1.1.10 Return on Invested Capital (ROIC)

According to Koller et al (2015), ROIC can be defined by the return that the company earns on each euro invested in it. Koller et al (2015) also state that the longer the company sustains a rate of return higher than the cost of capital, the more value it will create.

$$ROIC = \frac{NOPLAT}{Invested\ Capital} (16)$$

1.1.1.11 Net Operating Profit Less Adjusted Taxes (NOPLAT)

Koller et al (2015) emphasize that NOPLAT is the total after tax operating income made by the company, that is available to all investors.

$$NOPLAT = EBIT\ (1 - tax) (17)$$

1.1.1.12 Valuation of young or start-up firms

According to Damodaran (2002), the value of a young, start-up firm can be defined by the computation of the present value of expected cash flows from its operations, through estimates of these cash flows. Damodaran (2002) also states that these expected cash flows may require going to unusual sources of information such as historical financial statements and the valuation of comparable firms.

1.2 Multiples

Koller et al (2015) define multiples as an assumption that a company will be worth some multiple of future earnings or book value. Damodaran (2002) affirms that there are three types of multiples to be studied, earning multiples (Price Earnings Ratio, Price Earnings to Growth Ratio, Enterprise Value to EBITDA ratio), book value multiples (Price to Book ratio, Value to Book ratio) and Revenue multiples (Price to Sales ratio, Enterprise Value to Sales ratio).

1.2.1 Price Earnings Ratio (PE)

Koller et al (2015) emphasize that the ratio of the market price per share to the earnings per share is the definition of PE multiple.

$$PE = \frac{Market\ Price\ per\ share}{Earnings\ per\ share} \quad (18)$$

1.2.2 Price Earnings to Growth Ratio (PEG)

According to Damodaran (2002), this ratio is the coefficient between the PE ratio and the expected growth rate.

$$PEG\ ratio = \frac{PE\ ratio}{Expected\ Growth\ Raate} \quad (19)$$

1.2.3 Enterprise Value to EBITDA multiple (EV/EBITDA)

Damodaran (2002) states that the EV/EBITDA multiple is the relation between the total market value of the firm to the earnings before interest, taxes and depreciation and amortization of the firm (EBITDA).

$$\frac{EV}{EBITDA} = \frac{Market\ Value\ of\ Equity + Market\ Value\ of\ Debt - Cash}{EBITDA} \quad (20)$$

1.2.4 Price to Book ratio (PBV)

The price to book ratio is obtained by dividing the market price per share by the current book value of equity per share. (Shittu et al, 2016).

$$PBV = \frac{Price\ per\ share}{Book\ value\ of\ equity\ per\ share} \quad (21)$$

1.2.5 Value to Book Ratio

According to Damodaran (2002), the value to book ratio is obtained by computing the coefficient between the market value of both debt and equity and the book value of capital invested in a firm.

$$Value\ to\ Book\ Ratio = \frac{Market\ value\ of\ Equity + Market\ Value\ of\ Debt}{Book\ value\ of\ Equity + Book\ value\ of\ Debt} \quad (22)$$

1.2.6 Price to Sales Ratio

Shittu et al (2016) emphasize that the Price to Sales ratio is the relation between the market value of equity and revenues.

$$Price\ to\ Sales\ Ratio = \frac{Market\ Value\ of Equity}{Revenues} \quad (23)$$

1.2.7 Enterprise Value to Sales Ratio (EV to Sales Ratio)

Damodaran (2002) affirms that to compute this ratio is computed by dividing the total market value of the firm by the revenue.

$$EV\ to\ Sales\ Ratio = \frac{Market\ Value\ of\ Equity + Market\ Value\ of\ Debt - Cash}{Revenues} \quad (24)$$

2. Industry Overview

2.1 E-commerce Industry

According to INE and IDC, more than 80% of the Portuguese use the Internet, and nearly 46% do their purchases online. This research also expects that in 2025, this value goes up and reaches the mark of 59%. However, the percentage of people that do utilize the webstores to do purchases in foreign stores is larger than the ones that do it in Portuguese stores. This parameter can change in the future due to the emergence of many new Portuguese online stores.

The value of the e-commerce market (B2C plus B2B), in Portugal, reached 96,000 million of euros in 2019, and it is expected that in 2020 this value can reach 110,600 million of euros. If it is only considered the B2C market, the value in 2019 was 6,000 million euros, representing 2.9% of the Portuguese GDP, and in 2020 the market reached a value of 8,000 million of euros. This raise is explained by the pandemic that drastically changed the habits of the consumers and companies.

The pandemic has also changed the behavior regarding online shopping; as 60% of the online consumers affirmed that they have increased the amount of their online purchases, and 73% of the consumers do it, in average, more than 3 to 5 times a month. The categories that had a major increase, in the online sector, due the pandemic were food and beverage, which previously had no expression at al.

In 2019 the profile of the Portuguese online shopper was a person that does almost 14 purchases a year with an average spending of 39.70€, that in each purchase bought 3 products, and the average annual spending was 548.40€.

Due to this intensive growth, in 2021 is expected the appearance of new trends that will approximate, even more, the consumer to the physical shop environment without leaving their own houses. There are 5 trends that will be more noticeable in this year:

- **Virtual reality and augmented reality**: Although the existence of the virtual shops was already seen in 2020, in 2021 it is expected that more and more companies will create this type of initiative. The firms are feeling the need of giving a true experience of a physical store to the consumer through interactive experiences, closing down the gap between physical and online stores.
- **Voice Commerce:** Voice commerce can be defined as the commerce that is done through a voice assistant (Mauri, 2019) as the ones that is possible to find

in smartphones (Siri, Alexa...). This will follow the tendency that people are increasing their searches on the internet by this method because it is very practical and permits multitasking.

- **Alternative paying methods**: It is expected that the sellers will incorporate even more methods like apple pay, PayPal, mbway and cryptocurrency in their payment methods. This will bring a lot of practicality to the payment, as the transactions will be easier to do and process, more than compensating for the disadvantages of these methods.
- **Artificial Intelligence and Chatbots:** Besides not being a recent topic, artificial intelligence will be more and more important to these businesses as it allows for a great optimization and personalization in the process of the purchase. The chatbots will also help the approximation to the customer, as it is an intelligent artificial tool that can read and respond to the customer questions, and so can be available at every time to the customer.
- **Mobile Commerce**: Mobile shopping is the commerce that is done through a mobile device such as a smartphone or a tablet, and this is already contributing to the exponential growth of e-commerce due to permitting everyone to do their shopping wherever they are. This is possible because nowadays everyone has a smartphone and in almost everywhere, it is possible to access some type of internet. It is expected that 73% of all of e-commerce will happen through mobile commerce.

It is expected that with the situation that is happening in the world, and with the help of these 5 trends, the e-commerce market will reach a growth of 30% worldwide and 20% in Portugal.

2.2 ICT Industry

The market of ICT in Portugal has been rising in recent years, and besides being initially predicted to grow 2.2% in 2019 and reach 8,240 million of euros of market volume, however the growth was even bigger reaching a value of 8,384 million euros. The analysis of the first months of 2020 showed the beginning of the impact of the pandemic in this sector and the importance of ICT in the lives of the people in this situation revealing that the services of messages and video calls had a rise of 50% in the world. Another fact that explains the success and importance of ICT in 2020 is that Novabase, the leading company in the Portuguese market, was the only listed company in PSI20 that had a positive variation in net results, having a variation of 193%, due to a growth of 14% in their revenues. Another important fact is an analysis that Bank of Portugal did in the beginning of 2020 which affirms that the companies that operate in the ICT market are growing faster than the others.

The director of Facebook in Portugal stated that technologies are having a fundamental part in this pandemic, performing diverse functions from permitting the authorities to reach the public with important messages, as well as saving businesses from closing, and making people feel closer or even helping to identify the virus.

Another study, which is centered in Portuguese spin-offs and start-ups revealed that the majority of the companies inquired are related to ICT, performing 40% of the sectoral diversity.

Besides all of this, IDC revealed that after an inquiry, the companies spent less in ITC meaning a decrease of 1.7% in 2020. According to IDC the market of ITC in Portugal will grow 0.9% every year until 2024 reaching a value of 8,948 million euros.

It is expected that this market continues to expand in Portugal, and that in 2021, 30% of the economy will be digitalized, which means a fast growth of 8% when compared to 2018.

3. Company Overview

3.1 Company's History

The Loop Company was born in 2016 named after the project Book in Loop, with the goal of taking out of the families' budget the excessive burden that schoolbooks represented. This was an instant success, because the company permitted families to save up to 80% of their usual expenses with this process. This project consists in a circular economy where families can sell their children's past yearbooks to the company, and buy the new year's books at a great discount.

With the success of Book in Loop, the company understood the great opportunity that the circular economy was presenting, and so in 2019 it launched BabyLoop. An e-commerce store with the same system of Book in Loop, permitting everyone to sell and buy the necessary equipment for raising a baby.

The company has received the first venture investment impact in Portugal. This combined with the experience gained in both projects permitted the company to grow in 3 different areas: circular economy, social innovation and technology. That combination of factors was so important that it even led to the change of name to The Loop Company.

With the social and sustainability concerns that the 2 projects raised, the company agreed to a partnership with Gulbenkian leading to the launch of UniLoop. A program that presents health and sustainability benefits to university students based in behavioral economics.

As all of these projects had their base in technology, it was built a team with all the technical skills in hardware and software. The team is incubated in the European Space Agency, providing services to different companies to meet the challenges of disruption on traditional markets.

The company started with only 3 people, and because of all the success, the company now has various collaborators who help to develop projects in different areas and 3 subsidiaries: Loop Circular, Loop Future and Bild Analytics.

3.2 Business Segments

As said before, since the year of its foundation, the company has increased the areas of business. Before reaching this point, the majority of the activity was the purchase and sale of schoolbooks, and for that purpose only one company was needed, Book in Loop. In 2019 was created the first subsidiary, Loop Circular, followed by Loop Future in 2020, and during this time the company also bought 70% of the company Bild Analytics. This means that until 2019, all of the revenues and costs were concentrated only in Book in Loop. This situation changed in 2020, where operational activities were moved to Loop Circular and the software activities were moved to Loop Future.

Book in Loop

The first company to be born, the company that gave the first name to the enterprise, and which is now the holding company. In 2018 it had revenues of 561,843.00€, representing an increase of 49.92%, which was quite positive. However, in 2019, revenues decreased 29.03%, reaching a value of 398,760.68€. This decrease can be explained by the fact that 2019 was the first year that the Portuguese government decreed that all students of public schools would have the books for free. In 2020, the operational and software activities were transferred to Loop Circular and Loop Future, respectively, and so the revenues of Book in Loop decreased to 277,361.06€, being these referred to more social projects. In these, the company provides services related to circular economy such as the spin project where it worked with schools and municipalities. Uniloop where the company tries to bring the concept of circular economy to university campus and a project called city point that in collaboration with municipalities created a solution that tries to extol the importance of living in society by rewarding citizens when they complete an action that benefits the common good.

Loop Circular

This subsidiary was created in 2019, but besides that, there were no revenues attributed to this company. Only in 2020, when the operational activities, like BabyLoop, were transferred to the company, were obtained revenues of 585,067.75€. This was an identical value to the revenues of Book in Loop in 2018, but it can be considered a better result because it is only considering

operational activities. This means that the revenues of this sector of the company increased a lot compared to 2019. In 2021, it is expected that this subsidiary will have a decrease of 43.24%, representing a value of 332,040.00€. It is a big decrease but when comparing the EBITDA of both years, it can be concluded that the business is becoming more efficient because even with the decrease in sales, EBITDA is expected to increase 35.01% from -234,442.59 € to -152,358.00€.

Loop Future

Created in 2020, this subsidiary has the responsibility of providing services in the ICT market and in the first year of activity had revenues of 589,223.71€. This is a value greater than the best year of Book in Loop, and being the only one of the 3 (Book in Loop, Loop Circular and Loop Future) to have a positive net profit of 118,747.83€. In 2021, the company expects an increase of 191.56% in revenues and EBITDA 5.6x times higher than the one achieved in 2020. In this segment, several projects were developed from a collaboration with TicketLine in order to improve their interface, to a small device called JACOB - a solution to improve workplace health & safety IOT for the construction industry workforce.

Bild Analytics

Bild Analytics was created in 2018 as a spin-off of NOVA IMS by 2 students. In 2019, the company had an investment made by (?) Loop Co that helped to create the necessary means to grow the company. This investment also represented the purchase of 70% of the company by the group. The core of the business is the implementation of analytic solutions focusing on Business Intelligence and Data Science. Since its creation the company has increased its revenues every year, reaching the values of 32,019.00€ in 2018, 445,092.09 € in 2019 and 1,028,281.57 € in 2020, respectively. These results show that the company has been doing the right thing, but it became even more clear by the fact that it also achieved a positive net profit in every year of activity. It is also possible to conclude that the investment made in this company resulted in a huge rise of the revenues. In 2021 it is expected that the company will maintain this tendency reaching revenues of 1,677,425.00€ and an EBITDA of 426,627.00€.

	Revenues	Cost of Revenues	EBITDA
Book in Loop	277 361.06 €	284 230.83 €	154 426.46€
Loop Circular	585 067.75 €	677 485.47 €	(152 357.73 €)
Loop Future	589 223.71 €	182 761.87 €	152 141.07 €
Bild Analytics	1 028 281.57 €	434 490.97 €	120 318.24 €
The Loop Co	2 025 182.68 €	1 279 250.48 €	204 256.76 €

Source: Group Annual Report 2020

Table 1 - Sales, Cost of Revenues and EBITDA of all companies in 2020

	Revenues	Cost of Revenues	EBITDA
Book in Loop	239 191.87 €	150 927.10 €	207 583.07 €
Loop Circular	332 040.00 €	219 054.20 €	45 002.40 €
Loop Future	1 717 959.00 €	163 655.12 €	859 528.74 €
Bild Analytics	1 677 425.00 €	571 568.50 €	426 627.14 €
The Loop Co	2 925 977.97 €	783 016.55 €	1 037 066.28 €

Source: Group Projections 2021

Table 2 - Sales, Cost of Revenues and EBITDA of all companies in 2021

3.3 Ownership Structure

The group is not listed in any stock exchange market. Even though there is no other participation in the group except from the 4 owners, however, some of the subsidiaries are not totally owned by the group.

The holding company, Book in Loop, and the most recent subsidiary (Loop Future) are 100% owned by the group. In the case of Loop Circular, 75% of the participation belongs to the group, with the rest of the participation owned by "Fundo Bem Comum" and "Fundo Para A Inovação Social", with 10% and 15%, respectively.

Regarding Bild Analytics, as said before, the co-founders own 30% of the company, with the remaining 70% being owned by the group.

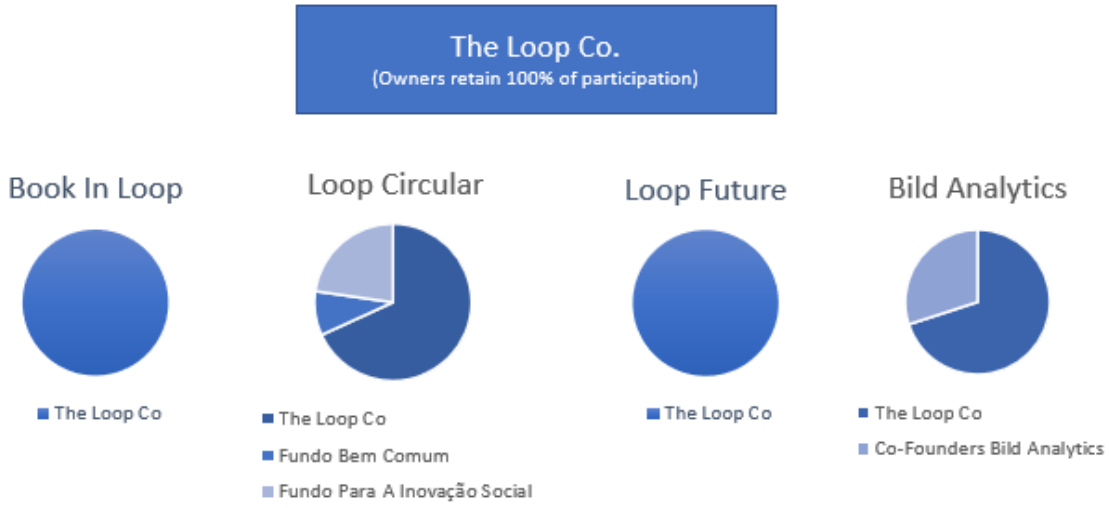

Figure 1 - Ownership Structure of each company - Author's own illustration

3.4 The Future of The Loop Co

After the decision of the Portuguese government to offer schoolbooks to every student of public schools, the company was obliged to reformulate its business. The reformulation that resulted from this process is the company that, as already explained, became an expert in developing solutions in the circular economy and software solutions that can be used in different business models.

The group is now established in the market, and recently launched a software called Loop Operating System (Loop OS). This system can be used by any store that is planning to launch or already has a service of recovery and sale of any product. Loop OS is not exclusive for companies that have activity regarding social economy but for every type of business. With the biggest companies starting to look to the circular economy as a new way of making money, The Loop Co can be pivotal due to their expertise and to the service that it provides. The service provided by the company is unique because of the quality control through which the products pass before being sold.

Besides the boost predicted in the national market, the company in 2020 launched the service of purchase and sale of schoolbooks in Spain. This represented the first step in the brand internationalization. The Loop Co is currently working with one of the biggest Spanish brands to launch a pilot project. It is expected that if the pilot goes well and the company reaches a deal with the brand, that it will be necessary to open a delegation in Spain.

More recently, the company announced that it is the newest business partner of Appian. This company helps organizations to withdraw everything from its resources in order to improve results by building apps and workflows quickly. The Loop Co believes that with this partnership it will revolutionize the consumer experience and reach an automatized and simpler future.

4. The Loop Co Valuation

4.1 Valuation Assumptions

The goal of this project is to obtain a fair evaluation of The Loop Co. In order to do that it is needed to define assumptions. The first one is the method that is going to be used in the valuation. The company is going to be evaluated by the Discounted Cash Flow - Free Cash Flow to the Firm and by relative valuation (multiples). Another very important premise that has to be established is the time horizon the valuation is going to cover. In the case of The Loop Co, the valuation will cover 5 years, between 2021 and 2025.

Both of these assumptions are very important because they are the ones that guarantee the evaluation is fairly done and not biased. The 5-year period will oblige that the valuation takes into account different conditions associated with the company, instead of only one year. At the end of the fifth year, it will be considered a continuing value with a constant growth rate.

4.1.1 Revenues

Book in Loop

As said before, the revenues of the holding company have been decreasing since the division of the activities by the subsidiaries in 2019. This tendency is expected to be continued in 2021, however with a lower decrease than the one seen in 2020. Besides this fact, the revenues of the company have, in 2021, a forecasted monthly average growth of 4%. This rate is considered as the growth of the company in 2022. Looking at the company revenues evolution, one can see that revenues are starting to become stable, and therefore for the rest of the year, it is expected that these will be growing at the pace of the economy.

$$Economy\ Pace = Inflation\ Rate + GDP\ Rate \quad (25)$$

Considering this formula, the company will have a stable growth rate in the next few years, and then from 2025 (inclusive) forwards the company will grow at a rate of 3.27%.

	2020	2021	2022	2023	2024	2025
Inflation Rate				1.27%	1.40%	1.47%
GDP Rate				2.50%	2.30%	1.80%
TGR	-30.44%	-13.76%	4.00%	3.77%	3.70%	3.27%

Source: Statista, Own Calculation and Estimations

Table 3- Book in Loop growth rate 2020-2025F

With the values presented, it is forecasted that the holding company will reach a revenue value of 276,442.30€ in 2025.

	2019	2020	2021	2022	2023	2024	2025
Revenues	0.398	0.277	0.239	0.248	0.258	0.267	0.276

Source: Book in Loop Annual Report, Own Estimates
Table 4 - Book in Loop revenues 2019-2025F

Loop Circular

Created in 2019, the company only had revenues in 2020 and the forecast for 2021 is that revenues decrease in 2021. Once again, this decrease is not seen in the forecasted average monthly growth rate that is equal to 39%, decreasing to 22% if it is only considered the last 6 months and to 5% considering only the last 2. The pace of the company in 2021 is the expected for a company that has not had many activity years, in other words, the revenues grow faster in the beginning and then become relatively stable. Taking this into account it was considered that the growth rates of the next 3 years are the ones referred above. For the remaining years, as in Book in Loop revenues should grow at the pace of the economy.

	2021	2022	2023	2024	2025
TGR	-43.25%	39.00%	22.00%	5.00%	3.27%

Source: Statista, Own Calculation and Estimations
Table 5 - Loop Circular growth rate 2021F-2025F

Considering these values, it is expected that Loop Circular reaches a value of 610,560.23€ in 2025.

	2020	2021	2022	2023	2024	2025
Revenues	0.585	0.332	0.462	0.563	0.591	0.610

Source: Loop Circular Annual Report, Own Estimates
Table 6 - Loop Circular Revenues (in million €) 2019-2025F

Loop Future

The most recent subsidiary, created in 2020, and the one with the highest value of revenues in 2020 reaching 589,223.71€, is the one where the group expects the highest raise in 2021. The forecast for 2021 is that the company will grow 191.56%. However, as seen in the other companies the forecasted average monthly growth rate is very different, only 15%, and so this will be the forecast for the growth rate in 2022. In 2023, the growth rate will be the average monthly rate considered only in the last 6 months of 2021. In the remaining years, the company will grow at the pace of the economy.

	2021	2022	2023	2024	2025
TGR	191,56%	15.00%	8.00%	3.70%	3.27%

Source: Statista, Own Calculation and Estimations
Table 7 - Loop Future growth rate 2021F-2025F

Considering these growth rates, the company expects that in 2025 the revenues value will be 2,285,005.89€.

	2020	2021	2022	2023	2024	2025
Revenues	0.589	1.718	1.976	2.134	2.213	2.285

Source: Loop Future Annual Report, Own Estimates
Table 8- Loop Future Revenues (in million €) 2020-2025F

Bild Analytics

A company that was not created by the group, but grew a lot after the investments made by it reached more than a million in revenues in 2020. This represented a growth of 131.03% considering the revenues of 2019. In this company, it is possible to see that the growth rates are starting to decrease: 247.52% in 2019, 131.03% in 2020 and it is forecasted that in 2021 the growth rate will be 63.13%. In 2022, the growth rate used will be the average monthly growth rate forecasted for 2021 and from 2023the company will grow at the economy's pace.

	2019	2020	2021	2022	2023	2024	2025
TGR	247.42%	131.03%	63.13%	8.00%	3.77%	3.70%	3.27%

Source: Statista, Own Calculation and Estimations
Table 9- Bild Analytics growth rate 2019-2025F

Accordingly, it is forecasted that in 2025 the revenues of Bild Analytics will reach a value of 2,013,221.77€.

	2019	2020	2021	2022	2023	2024	2025
Revenues	0.445	1.028	1.677	1.812	1.880	1.949	2.013

Source: Bild Analytics Annual Report, Own Estimates
Table 10 - Bild Analytics Revenues in million € 2019-2025F

The Loop Co.

The revenues of the group are the sum of every company. However, in the case of Loop Circular, the group only considers 75% of the revenues, and only 70% in the case of Bild Analytics. It is important also to note that until 2020 the revenues of the group were the same as Book in Loop, as it was the only company that existed. In 2025, the group should reach a revenue of 4,428,623.60€.

	2019	2020	2021	2022	2023	2024	2025
Revenues	0.399	2.025	2.926	3.839	4.130	4.288	4.428

Source: The Loop Co Annual Report, Own Estimates
Table 11 - The Loop Co Revenues (in million €) 2017-2025F

4.1.2 Cost of Revenues

Koller et al. (2015) states that cost of sales should be forecasted taking in account the revenues because it is one of the indicators that is driven by them. The Cost of Sales/Revenues ratio is different in each company.

Book in Loop

The holding company has been decreasing its Cost of Sales/Revenues ratio since 2019, having 107.74% in 2019, 102.48% in 2020 and a forecasted ratio for 2021 of 63.10%. As referred previously this company is expected to grow from 2021 at the pace of economy. For this reason, it is also forecasted that this ratio will be the same in every year from 2021, reaching a cost of sales of 174,431.66€ in 2025. **(APPENDIX 1)**

Loop Circular

The first subsidiary had an even worse ratio in 2020, meaning that the cost of sales represented 115.80% of the revenues of the company. In 2021, the company forecasts that this ratio will decrease to 65.97%. This value means that the company decreased the ratio more than half than

in the previous year. Therefore, for 2022, it is assumed that the ratio will be decreasing in the same proportion reaching 37.22%. The remaining years will maintain the same ratio, being expected a cost of sales of 227,250.52€ in 2025. **(APPENDIX 2)**

Loop Future

Regarding Loop Future the ratio in 2020 was 31.02%, a very good result compared with the rest of the companies. In 2021, the company forecasts that the ratio will go down to 9.53%, a very small ratio. However, it is assumed that 2021 will be a year off and that the company cannot maintain a small ratio like this. Therefore, for the remaining years, starting in 2022, the ratio considered will be an average of the ratios of the 2 previous years, reaching a ratio of 20.27%. Considering this, it is forecasted that the cost of sales in 2025 will be 463,211.09€. **(APPENDIX 3)**

Bild Analytics

The ratio of Bild Analytics in 2019 is very similar to the one from Loop Future, 35.15%. In 2020, the value increased to 42.25%, and in 2021, it is forecasted to reach a value of 34.07%. The values are very close to each other, and for that reason to calculate the ratio of the remaining years, was computed the average of the 3 ratios already presented. Therefore, the ratio that was used from 2022 until 2025 is 37.16%, meaning that the cost of sales in 2025 is forecasted to be 748,091.88€. **(APPENDIX 4)**

Loop Co

As said in the revenues section, when calculating the cost of sales of the group, it is also needed to take into account the participation that the group has in every company. After the calculations, it is possible to see that from 2019 to 2020, the cost of sales had a significant increase, but the ratio decreased from 107.74% to 58.18%. This value is forecasted to decrease even more in 2021, before becoming stable at a value around 28.5%. It is predicted that the cost of sales of the group in 2025 will reach 1,315,163.35€. **(APPENDIX 5)**

4.1.3 Other Revenues and Expenses

It is important to clarify what are the revenues and expenses included in this item. Other revenues are the ones that came from government subsidies and in the case of Book in Loop were also summed the profits made by the subsidiaries. Other expenses were considered staff costs and selling and administrative expenses. The method used to compute the estimates of these items was the same used previously, the ratio compared to the revenues of the company.

Book in Loop

When calculating the ratios for this company, it was seen that, regarding other revenues the company had a ratio Other Revenues/Revenues of 52.56% in 2019, 61.10% in 2020 and a forecasted ratio of 34.27% in 2021. For the year of 2022, it was assumed an average of the ratios of the last 3 years, reaching a value of 49.31%. This value was used for the remaining year representing a total of other revenues of 136,313.70€ in 2025. Regarding staff costs, selling, and administration it was possible to conclude that the Staff Costs/Revenues, Selling, and Administrative/Revenue's ratios were very similar in 2019, 2020 and 2021. Considering this, the ratios used for the remaining years were an average of these 3 years, resulting in a ratio of 53.22% for staff costs and a ratio of 4.96% for other expenses. These ratios mean that in 2025 the company will have staff costs of 147,122.59€ and 13,711.54€ of selling and administrative expenses. **(APPENDIX 6)**

Loop Circular

In the case of Loop Circular, the assumptions were almost the same as in the holding company. The only exception was the case of other revenues, because the ratio of 2020 was 0.00006%. As this value is residual and that the forecasted value to 2021 is a ratio of 1.43% it was assumed that, the other revenues will be for the remaining years 1% of the revenues. The ratios of the rest of the items were calculated with the average of the ratios of 2020 and 2021, resulting in a ratio of 53.18% in the case of staff costs and 0.85% regarding selling and administrative expenses. These values will maintain for the remaining years. Considering this, it is expected that in 2026 the company will have other revenues of 6,105.60€, staff costs of 324,695.93€ and selling and administrative expenses of 5,204.82€. **(APPENDIX 7)**

Loop Future

Regarding the most recent subsidiary, all the ratios for 2022 were calculated computing the average of the ratios of 2020 and 2021, becoming stable for the rest of the years. It was established a ratio of 4.38% for other revenues, materialized in a value of 100,066.57€ in 2025. Regarding staff costs, in 2025 the value will be 1,044,674.70€ resulting from a ratio of 45.72%. The lowest value is the one from selling and administrative selling expenses, 10,568.87€, that resulted from a ratio of 0.46%. **(APPENDIX 8)**

Bild Analytics

This company presented for the other revenues a ratio of 0% in 2019 and 2020, and a forecasted ratio of 1.93% in 2021. For this reason, it was assumed that the ratio for the remaining years would be similar to the one in 2021, meaning 2% of the revenues in each year. In the case of staff costs, the method was the same as before, the average of the ratios between 2019 and 2021, resulting in a ratio of 44.14%. The ratios in the case of selling and administrative expenses were 0.17% in 2019, 0% in 2020 and a forecasted ratio of 0.19%. Considering this, the ratios for the remaining years will be the average of the ratios of 2019 and 2021, resulting in a ratio of 0.18%. Considering this information, the value in 2026 for other revenues will be 40,264.44€, personnel costs of 888,554.43€ and selling and administrative expenses of 3,623.80€. **(APPENDIX 9)**

Loop Co

As in the other items, these are also computed by the sum of the values of each company, taking into account the participation of the group in each company. This means that the group will reach in 2025 values of 268,252.10€ of other revenues, 2,037,612.36€ of personnel costs and 29,255.30€ of other expenses. **(APPENDIX 10)**

4.1.4 Depreciation and Amortization

Regarding depreciation and amortization, it is possible to divide the 4 companies in 2 groups. The ones that present depreciation, amortization, and the ones that do not. The last group is only composed by Bild Analytics, which never presented depreciation and amortization, and it was assumed that it would continue like that. Book in Loop presented every year and Loop Circular and Loop Future presented in the only year of activity. Contrary to the other items, the group did not present forecasts of depreciation for 2021. In order to compute the data for the

remaining years, in a fairer way, was consulted the annual reports of the years before to see how depreciation was computed. Data was calculated taking into account the values of intangible and fixed tangible assets. It was then computed the percentage of the assets being depreciated. In order to compute the data for the remaining years, it was assumed that the assets would grow at the pace of the economy and an average of the ratios of the past 2 years of Book in Loop. In the case of Loop Circular and Loop Future the ratio of 2020 will be the one for the remaining years. This information resulted in a value of depreciation and amortization in 2025 of 25,995.54€ in the case of Book in Loop, a value of 6,759.28€ in the case of Loop Circular and 5,812.10€ regarding Loop Future. Loop Co will reach in 2026 a value of 36,877.09€. **(APPENDIX 11)**

4.1.5 Earnings Before Interest and Taxes (EBIT)

The items presented above compute EBIT. However, in the case of Book in Loop it is important to refer that, as the holding company will also have revenues from the subsidiaries.

$$EBIT = Revenues - Cost\ of\ Sales - Staff\ Costs + Other\ Revenues - Other\ Expenses - Depreciation\ and\ Amortization \quad (26)$$

In all the companies, and subsequently in the group, EBIT has a rising trend. **(APPENDIX 12)**

4.1.6 Effective Tax Rate

Regarding the tax rate, the companies can also be divided into 2 groups. The ones that always presented a positive tax rate and the ones that had years where their EBT (Earnings Before Taxes) were negative and so the tax rate had to be also negative. Loop Future and Bild Analytics had a positive tax rate every year (Loop Future only has 1 year of activity), and for that reason the tax rate from 2021 forward was an average of the previous years. This represented a tax rate of 3.90% in the case of Bild Analytics and 1% in Loop Future (tax rate of 2020). Regarding Book in Loop the tax rate of 2020 was positive, contrary to the year before, and so it was predicted that for the remaining years the tax rate would be the same (1.51%). In the case of Loop Circular, the tax rate in 2020, only year of activity, was negative. However, for the remaining years it is expected a positive EBT, and for that reason the tax rate must also be positive. As there is no historical data of positive tax rates, it was forecasted a tax rate similar

to the other companies (1%). Regarding the group, the tax rate will be a value around 1.65%. **(APPENDIX 13)**

4.1.7 Capital Expenditures (CAPEX)

According to Moltchanski et al (2010), CAPEX are purchases of property, plant and equipment or other assets that are strictly physical in nature. In the case of these companies there are 3 different situations. Book in Loop and the group has a whole have decreasing tendency becoming stable in the last years. Loop Circular and Loop Futures have a decreasing tendency in the beginning, and then Capex in both companies starts to increase. Bild Analytics does not have Capex due to the fact that it does not present fixed tangible assets and depreciation in its reports. **(APPENDIX 14)**

4.1.8 Working Capital (WC)

According to Pinku et al (2018), Working capital represents one of the most important measures of firm efficiency because it reflects the ability of a company to meet day-to-day operating expenses. Pinku et al (2018) also state that working capital acts as an indicator of the short-term financial health of the company. All the companies and the group, follow the same pattern of having positive variations in each year's working capital. The only exception was in Book in Loop from 2019 to 2020 where the working capital suffered a significant decrease. Book in Loop is also an exception because it is the only one with negative working capital in every year (except in 2019). This means that the holding company is the only one with more current liabilities than current assets. **(APPENDIX 15)**

4.2 Discounted Cash Flow of The Loop Co.

The evaluation of the group was done by 2 different ways, by industry and an evaluation of the group as a whole. As said before the company has activity in 2 different industries, e-commerce and ICT. In the case of e-commerce, it was only considered the valuation of Loop Circular, and in the ICT industry, it was considered both Loop Future and Bild Analytics. Book in Loop, as the holding company, is only considered in the group valuation.

4.2.1 Free Cash Flow to the Firm (FCFF)

As referred in the literature review, to calculate FCFF are necessary 5 items: EBIT; Taxes; Depreciation and Amortization; Capital Expenditures; and the variation in Working Capital. This calculation was made in the 2 segments of the company and in the case of the group as whole.

E-commerce

Regarding e-commerce it was computed by multiplying the indicators of Loop Circular by 0.75 (percentage owned by the group). This means that this segment is expected to have an increase in FCFF as the years go by, besides having a negative Free Cash Flow to the Firm in 2021. It is expected to have a Free Cash Flow to the Firm of 38,622.38€ in 2025. **(APPENDIX 16)**

ICT

The process of ICT was very similar to e-commerce but besides multiplying the indicators of both companies by the participation owned by the group, it was also summed the indicators of both companies. In the case of ICT, FCFF is positive every year and it is expected to have a rising tendency in the following years, meaning a value of 1,099,623.34€ in 2025. **(APPENDIX 17)**

The Loop Co

To compute the FCFF of the group it was summed the indicators of the group. FCFF of the Loop Co has a very similar pattern to ICT, because it has positive values every year and the tendency is that FCFF will be bigger in the next few years. It is expected to have a value of 1,426,299,70€ in 2025.

	2021	2022	2023	2024	2025	PERPETUITY
EBIT	1.037	1.319	1.357	1.408	1.455	
TAXES	0.015	0.023	0.022	0.023	0.023	
DEPRECIATION	0.036	0.036	0.036	0.037	0.037	
CAPEX	0.037	0.037	0.037	0.037	0.038	
CHANGES IN WC	(0.004)	0.005	0.004	0.005	0.005	
FCFF	1.025	1.291	1.331	1.380	1.426	29.901

Source: Group Annual Reports, Own Calculations

Table 12 - FCFF of the group 2021F-2025F (in million €)

4.2.2 Cost of Debt

Regarding cost of debt, as said before, it is computed by multiplying the pre-tax cost of debt by 1 minus the tax rate. Pretax cost of debt is the same as the average rate of interest expense that a company has. Regarding the group, the only company that has interest expense is Book in Loop, so both segments of the group will have a 0% cost of debt. In the case of the group, the cost of debt in 2020 was 1.62%. **(APPENDIX 18)**

4.2.3 Cost of Equity and WACC

As the group is not a public company, the Debt-to-Equity ratio and the unlevered beta were assumed equal to the ones of the industries. In the case of the group, both indicators were computed by calculating an average of the ones of the 2 segments. To calculate the levered beta, was assumed that the beta of debt was 0 and the following formula was utilized:

$$\beta Levered = \beta Unlevered * \left(1 + \frac{D}{E} * (1 - t)\right) (27)$$

To compute the cost of equity it was used CAPM. The risk-free rate and the Equity Risk Premium, as the firm is Portuguese, it was considered the rates of Portugal. It was considered a risk-free-rate of 0.19% and an Equity Risk Premium of 6.85%.

	E-Commerce	ICT	The Loop Co
D/E	0.07	0.06	0.065
Unlevered Beta	1.24	1.08	1.16
Levered Beta	1.33	1.14	1.23
Risk Free Rate	0.19%	0.19%	0.19%
ERP	6.85%	6.85%	6.85%
Cost of Debt	0.00%	0.00%	1.62%
Cost of Equity	9.27%	8.02%	8.63%
Tax Rate	1.00%	2.57%	4.66%
WACC	8.67%	7.57%	8.20%

Source: Group Annual Reports, Own Calculations

Table 13 - Cost of Equity and WACC of both segments and The Loop CO

4.3 Discounted Cash Flow - Valuation Results

After calculating the Free Cash Flow to the firm, having the terminal growth rate and the WACC, it is possible to calculate the present value of all cash flows and obtain the Enterprise Value by summing them. In order to achieve the Equity Value, it is necessary to add non-operating assets to the Enterprise Value and then subtract Financial Debt and other non-operating liabilities.

E-commerce

	2020	2021	2022	2023	2024	2025	PERPETUITY
FCFF		-0.119	0.028	0.036	0.038	0.039	0.739
ENTERPRISE VALUE	0.484						
NON-OPERATING ASSETS	0.109						
FINANCIAL DEBT	0.039						
NON-OPERATING LIABILITIES	0.000						
EQUITY VALUE	0.553						

Source: Group Annual Report, Own Calculation
Table 14 - E-Commerce Equity Value (DCF) in million €

ICT

	2020	2021	2022	2023	2024	2025	PERPETUITY
FCFF		0.900	0.989	1.023	1.061	1.100	26.430
ENTERPRISE VALUE	22.423						
NON-OPERATING ASSETS	0.244						
FINANCIAL DEBT	0.012						
NON-OPERATING LIABILITIES	0.066						
EQUITY VALUE	22.589						

Source: Group Annual Report, Own Calculation
Table 15 - ICT Equity Value (DCF) in million €

The Loop Co

	2020	2021	2022	2023	2024	2025	PERPETUITY
FCFF		1.025	1.291	1.331	1.380	1.426	29.901
ENTERPRISE VALUE	25.236						
NON-OPERATING ASSETS	0.267						
FINANCIAL DEBT	0.255						
NON-OPERATING LIABILITIES	0.347						
EQUITY VALUE	24.901						

Source: Group Annual Report, Own Calculation
Table 16 - The Loop Co Equity Value (DCF) in million €

In the case of the group as a whole, there are 2 additional factors that should be considered. The first one is that whenever a group is evaluated it should be considered a holding discount. These discounts normally are considered to be between 10%-20%, with an average of 15%. This discount is applied to EV and then, as before, we also have to add non-operating assets, and subtract financial debt and other non-operating liabilities.

	2020	2021	2022	2023	2024	2025	PERPETUITY
FCFF		1.025	1.291	1.331	1.380	1.426	29.901
ENTERPRISE VALUE	25.236						
EV with Holding Discount	21.451						
NON-OPERATING ASSETS	0.267						
FINANCIAL DEBT	0.255						
NON-OPERATING LIABILITIES	0.347						
EQUITY VALUE	21.115						

Source: Group Annual Report, Own Calculation

Table 17- The Loop Co Equity Value (DCF), with holding discount, in million €

Another factor to be taken into account is that this evaluation is done with the objective of making an IPO. For that reason, it should be noted that it is usual to issue the new shares with a discount to guarantee their underpricing. This discount can vary from 11.1% to 16.3% according to Tizinit et all (2021). This means that the EQV for the IPO should be a value between 17,673,519.42€ and 18,771,515.84€.

4.4 Relative Valuation

Koller et al (2015) state that using a relative valuation approach can supply insights and test the valuation of a company. As said in the literature review, this valuation is done with multiples. Koller et al (2015) also affirm that the process behind using multiples consists of the idea that similar assets should sell at similar prices. Damodaran (2002) concludes that in relative valuation, the value of the company consists in a derivation of values of comparable firms. The relative valuation of this group is also done by segment as well as for the group as a whole. The multiples used being EV/EBITDA, EV/SALES and Price to Sales Ratio (P/S). The values used regarding these multiples were obtained in the database of Damodaran. The reason to use the average market values was that the competitors of the group in analysis are also private companies and therefore so, the actual values of their multiples are not known. The values of the multiples utilized in the group are the average of the multiples of both segments. In the case of EV/EBITDA, the multiple used was the one regarding companies with large R&D, as this company belongs to this group.

It is also important to state that this valuation has the objective to value the company at the beginning of 2021; therefore, the values of sales, EBITDA and net income used are the ones from the end of 2021. This can be explained by the fact that the company forecasts a big increase in sales and EBITDA in 2021, which has a big impact on the valuation of the company. In the case of the e-commerce sector, the values used are the ones of 2022 because the EBITDA of this sector of the company is negative until 2021.

Regarding the results, it was possible to compute EQV for every segment and for the group using the 3 proposed multiples. In the case of e-commerce, the values obtained for EV/EBITDA, EV/SALES and P/S were 19.06, 4.71 and 4.52, respectively. The Equity values of the company computed through the multiples were relatively similar, being the one calculated with EV/SALES the greatest. Concerning ICT, the values for the 3 multiples were 20.04, 11.82 and 11.4, following the same order. This segment is the one which obtained higher values and the highest difference among them, being once more the EV/SALES multiple the one that permitted to achieve the greater value. When using the multiples to evaluate the group, the values of the multiples obtained were 19.55 for EV/EBITDA, 8.27 for EV/SALES and 7.96 for P/S. The valuation of the group through the multiples, besides also having the highest valuation in the valuation done through EV/SALES, was the one with smaller differences among the 3 processes.

E-commerce

	(EV/EBITDA)	(EV/SALES)	(P/S)
EBITDA	0.034		
Sales		0.346	0.346
ENTERPRISE VALUE	0.643	1.631	
NON-OPERATING ASSETS	0.109	0.109	
FINANCIAL DEBT	0.039	0.039	
NON-OPERATING LIABILITIES	0.000	0.000	
EQUITY VALUE	0.712	1.700	1.565

Source: Group Annual Report, Own Calculation

Table 18 - E-commerce Equity Value (Relative Valuation) in million €

ICT

	(EV/EBITDA)	(EV/SALES)	(P/S)
EBITDA	1.158		
Sales		2.892	2.892
ENTERPRISE VALUE	23.210	34.185	
NON-OPERATING ASSETS	0.244	0.244	
FINANCIAL DEBT	0.012	0.012	
NON-OPERATING LIABILITIES	0.066	0.066	
EQUITY VALUE	23.376	34.352	32.971

Source: Group Annual Report, Own Calculation

Table 19 - ICT Equity Value (Relative Valuation) in million €

The Loop Co

	(EV/EBITDA)	(EV/SALES)	(P/S)
EBITDA	1.037		
Sales		2.926	2.926
ENTERPRISE VALUE	20.275	24.183	
NON-OPERATING ASSETS	0.267	0.267	
FINANCIAL DEBT	0.255	0.255	
NON-OPERATING LIABILITIES	0.347	0.347	
EQUITY VALUE	19.939	23.848	23.290

Source: Group Annual Report, Own Calculation

Table 20 - The Loop Co Equity Value (Relative Valuation) in million

In the case of the Loop Co, as the group is not listed it should be considered an illiquidity discount in the value obtained. This discount is normally situated between 10% to 20%, having an average of 15%.

	(EV/EBITDA)	(EV/SALES)	(P/S)
EQUITY VALUE	19.939	23.848	23.290
EQUITY VALUE with discount	16.948	20.270	19.797

Source: Group Annual Report, Own Calculation

Table 21 - The Loop Co Equity Value (Relative Valuation), with non-listed discount, in million €

4.5 Discounted Cash Flow vs Relative Valuation

Taking into consideration the methods used to evaluate the segments and the group as a whole, the results achieved were the following:

	E-Commerce	ICT	The Loop Co
DCF	0.553	22.589	21.115
(EV/EBITDA)	0.713	23.376	16.948
(EV/SALES)	1.700	34.352	20.270
(P/S)	1.565	32.972	19.797

Source: Group Annual Report, Own Calculation

Table 22 - Equity values of segments and group according to al methods (in million €)

From the above table it is possible to perceive that in almost every method used, except for DCF, the highest value belongs to the segment of ICT of the company. It is also possible to conclude that this segment is the one with more discrepancies in the values obtained.

The e-commerce sector is the one that achieved the lowest valuation in every method obtained, having the more different result when it was used the EV/SALES multiple.

Concerning all methods used, it can be concluded that when using multiples involving sales, the equity value obtained is higher than the ones computed through EV/EBITDA multiple and DCF. These 2 methods are the ones that are more similar in the results obtained.

The group as a whole has a similar EQV for all the methods, which can mean that the group is performing as expected. However, there is a difference of almost 12 million that is seen in the valuation of the ICT segment when comparing the values obtained through DCF and EV/SALES multiple. This probably means that the sales produced by this segment should be translated into a higher Equity Value, in order for the segment to be performing in line with the market.

To finish this comparison, it should be taken into account that the DCF valuation is very dependent on the value of WACC, and that a small variation of this indicator can substantially change the Enterprise Value.

4.6 Sensitivity Analysis

The DCF model – FCFF includes in its computation a lot of variables, and the evaluation of a company will be affected by each of them. However, it should also be said that not every single variable will have the same impact in the final value of the company. To study the effect in the valuation induced by a very small change in a variable 2 critical variables were chosen, the final growth rate (g) and WACC. The valuations computed above were achieved with a g of 3.27% common to every sector but a WACC of 8.67%, 7.57% and 8.20% for the e-commerce sector, ICT sector and the group as whole, respectively.

To understand how the changes in these variables change the value of the company, it was constructed a table that presents the EQV with different values for the chosen variables. These parameters were subjected to a variation of ±0.4% in the case of WACC and ±0.15% regarding g. It should also be noted that the values used in the case of the group were the ones without (i.e., before) discounts.

E-commerce

G	WACC	7.87%	8.27%	8.67%	9.07%	9.47%
2.97%		0.623	0.571	0.526	0.487	0.453
3.12%		0.641	0.586	0.539	0.498	0.462
3.27%		0.661	0.602	0.553	0.510	0.473
3.42%		0.682	0.620	0.568	0.522	0.483
3.57%		0.704	0.638	0.583	0.535	0.495

Source: Own Calculation

Table 23 - Sensitivity Analysis E-commerce – g and WACC (in million €)

ICT

G	WACC	6.77%	7.17%	7.57%	7.97%	8.37%
2.97%		25.801	23.350	21.342	19.625	18.177
3.12%		26.716	24.085	21.945	20.126	18.598
3.27%		27.710	24.877	22.589	20.658	19.045
3.42%		28.792	25.732	23.281	21.226	19.519
3.57%		29.976	26.658	24.025	21.832	20.022

Source: Own Calculation

Table 24 - Sensitivity Analysis ICT – g and WACC (in million €)

The Loop Co.

G	WACC	7.40%	7.80%	8.20%	8.60%	9.00%
2.97%		28.048	25.677	23.688	21.947	20.453
3.12%		28.896	26.378	24.276	22.446	20.881
3.27%		29.806	27.125	24.901	22.972	21.331
3.42%		30.784	27.924	25.564	23.529	21.805
3.57%		31.839	28.779	26.271	24.120	22.305

Source: Own Calculation

Table 25 - Sensitivity Analysis The Loop Co – g and WACC

As it is possible to see in the tables above, a slight change may induce a substantial fluctuation in the equity value. Considering the information provided by these tables, it is possible to conclude that with the lowest WACC and the highest g it is achieved the highest EQV. This can be explained by the fact that the FCFF is being discounted at the WACC, and so the lower the WACC, the higher the present value of the FCFF. As the perpetuity value is positively impacted by g, this means that if g increases then the value of the perpetuity also increases.

If compared the information of these tables with the results obtained in the multiples approach, it is possible to see that the values of the variables that are more similar to the values computed with the multiples differ in the tables. Regarding e-commerce, the more similar value is the lowest WACC and highest g and in the case of the group the more similar results can be achieved by the 2 lowest g and the middle WACC, or the 2 highest g combined with the second highest WACC. The ICT sector is the most difficult to compare because the multiples approach computed values quite different. The lowest value of the multiples is very similar to the one obtained with the lowest g and the second lowest WACC and the most similar value to the highest value obtained with multiples is the highest value.

This analysis can provide good insights to the group, as we may see that if some changes are made which impact these variables, then the value of the company might improve a lot.

5. Conclusion

The process of evaluating a company should be an impartial and objective exercise. However, that is impossible to achieve due to all the assumptions and forecasts which are needed to evaluate a firm. This means that as much as the process is objective, there will always be a dose of subjectivity associated with it.

In the attempt to overcome this issue, 2 methods were used, the discounted cash flow method and relative valuation. This permits a comparison of results in order to achieve a more realistic value. To help even more to reduce the subjectivity of the analysis the assumptions and forecasts made took into account the historical data and environment of the company.

This project has the objective to evaluate a very recent group and the 2 more important segments of the company. The greatest difficulty of this valuation was the fact that the group is very recent and that until 2019, there was only 1 company with activity in the group. The group is also not listed and in order to compute some indicators average values of the market were used, which can bias the valuation.

This valuation should be carefully considered as the company belongs to a sector of much innovation, which can mean that the values forecasted now might not be representative of what is going to happen in the future. It also must be carefully considered because in the DCF method it was assumed that from 2025 towards the company would become a perpetuity, which is not what happens in the majority of cases. Another factor that should be considered is the fact that this valuation was done by the sum of the parts method. This means that we did not compute minority interests, as we valued directly each stake of the group considering the respective percentage of interest.

The comparison of the results was analyzed and it can be concluded that the group as a whole is performing as expected. However, it was also seen that the ICT sector could perform even better. For a recent group it was possible to perceive the evaluation of their profits and it can be deduced that the company is growing in both segments.

To summarize, as the relative valuation gives a perspective of what values the company should be reaching. According to the value obtained, it is not recommended to become a listed company yet, because almost all values of relative valuation were greater than the ones achieved through DCF method. However, if the group surpasses the forecasts done in this valuation and continues to grow generating value, it should be possible to see The Loop Co as a listed company in the near future.

As said before, this valuation should be taken carefully, due to all limitations already referred, such as the fact of the company not being listed and the need to use market averages. In the future, to obtain a better valuation, this should be done when it may be possible to have more historical financial data, from the period when the company become a group with all 4 companies. It should also be done, if possible, with data relative to the company instead of using market averages.

6. References

6.1 Articles and Books References

Brealey, R. A., Myers, S. C., & Marcus, A. J. (2001). Fundamentals of corporate finance (3th ed.). Maidenhead, England: McGraw Hill Higher Education

Claus, J. J., & Thomas, J. K. K. (1999). The equity risk premium is lower than you think it is: Empirical estimates from a new approach. SSRN Electronic Journal. doi:10.2139/ssrn.165335

Damodaran, A. (2002). Investment valuation: University edition: Tools and techniques for determining the value of any asset (2nd ed.). Nashville, TN: John Wiley & Sons

Geyser, M., & Liebenberg, I. (2003). Creating a new valuation tool for South Africa agricultural co.operatives. *Agrekon*, *42*(2), 106-115.doi: 10.1080/03031853.2003.9523614

Grant, J., & Abate, J. (2001). Focus on value: A corporate and investor guide to wealth creation. Nashville, TN: John Wiley & Sons

Isakov, D. (1999). Is beta still alive? Conclusive evidence from the Swiss stock market. European Journal of Finance, 5(3), 202–212. https://doi.org/10.1080/135184799337046

Koller, T., Goedhart, M., & Wessels, D. (2015). *Valuation:Measuring and Managing the Value of Compani*. John Wiley & Sons

Moltchanski, K., Nagm, F., & Powell, R. (2010). Does the Market Value Innovative Investments? A Comparison of CAPEX with Investments in R&D and IT. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1685063

Oosthuizen, A., & Van Rooyen, J. (2013). Risk-free assets: Are they truly risk-free? A comparative study of South African rates and instruments. http://dx.doi.org/10.22495/rgcv3i3c1art5

Paul, P., & Mitra, P. (2018). Analysis of the Effect of Working Capital Management on Profitability of the Firm: Evidence from Indian Steel Industry. *Asia-Pacific Journal Of Management Research And Innovation*, *14*(1-2), 32-38. https://doi.org/10.1177/2319510x18812142

SHITTU, I., Ahmad, A., Ishak, Z., & Baru, P. (2016). Price to Book Value, Price to Sales Multiples and Stock Price; Evidence from Nigerian Listed Firms. https://www.researchgate.net/publication/308999071_Price_to_Book_Value_Price_to_Sales_Multiples_and_Stock_Price_Evidence_from_Nigerian_Listed_Firms

Steiger, F. (2008). The validity of company valuation using discounted cash flow methods. http://arxiv.org/abs/1003.4881

Tizniti, D., & Rachid Aasri, M. (2021). How discounts impact IPOs valuation performance and underpricing? A confrontation between warranted and unwarranted discounts. *International Journal Of Financial, Accounting, And Management*, *3*(1), 1-14. doi: 10.35912/ijfam.v3i1.510

6.2 Reports

Book in Loop Annual Report 2017
Book in Loop Annual Report 2018
Book in Loop Annual Report 2019
Book in Loop Annual Report 2020
Loop Circular Annual Report 2019
Loop Circular Annual Report 2020
Loop Future Annual Report 2019

Loop Future Annual Report 2020
Bild Analytics Annual Report 2018
Bild Analytics Annual Report 2019
Bild Analytics Annual Report 2020
The Loop Co Annual Report 2019
The Loop Co Annual Report 2020
The Group Forecasts to 2021

6.3 Internet References

Ecommerce News. 2020. *Ecommerce in Portugal - Ecommerce News*. [online] Available at: <https://ecommercenews.eu/ecommerce-in-europe/ecommerce-portugal/> [Accessed 13 March 2021].

Ecommercenews.pt. n.d. *Análise de mercado do Comércio eletrónico em Portugal - Ecommercenews.pt*. [online] Available at: <https://ecommercenews.pt/analise-de-mercado-do-comercio-eletronico-em-portugal/> [Accessed 15 March 2021].

Hydra iT. n.d. *E-Commerce: Tendências 2021 No Comércio Eletrónico Em Portugal*. [online] Available at: <https://www.hydra.pt/2020/12/28/ecommerce-tendencias-2021/> [Accessed 16 March 2021].

CLBrief. 2021. *E-commerce in Portugal jumps to EUR 10 billion in 2021*. [online] Available at: <https://www.clbrief.com/e-commerce-in-portugal-jumps-to-eur-10-billion-in-2021/> [Accessed 16 June 2021].

Mari, A., 2019. Voice Commerce: Understanding Shopping-Related Voice Assistants and their Effect on Brands. p.5.

Apdc.pt. n.d. *APDC - Gastos nas TIC vão crescer 1,5% ao ano até 2022*. [online] Available at: <https://www.apdc.pt/noticias/atualidade-nacional/gastos-nas-tic-vao-crescer-15--ao-ano-ate-2022> [Accessed 6 March 2021].

SAPO Tek. n.d. *Mercado TIC em Portugal cresce para os 8.240 milhões de euros em 2019*. [online] Available at: <https://tek.sapo.pt/noticias/negocios/artigos/mercado-tic-em-portugal-cresce-para-os-8-240-milhoes-de-Leitor.jornaleconomico.pt. 2020. [online] Available at: <https://leitor.jornaleconomico.pt/download?token=7dbbfafc28ab55700a23c6702381abbe&file=Quem_%C3%A9_quem_nas_TIC_2020_1.pdf> [Accessed 6 March 2021].

Business-IT. n.d. *Perspectivas para 2020: confiança, consolidação e inovação | Business-IT*. [online] Available at: <https://business-it.pt/2020/03/09/perspectivas-para-2020-confianca-consolidacao-e-inovacao/> [Accessed 10 March 2021].

Leitor.jornaleconomico.pt. n.d. [online] Available at: <https://leitor.jornaleconomico.pt/download?token=adc5ccec4e7153b9e0069c5eae08c8a8&file=QQ_2018_TIC1.pdf> [Accessed 12 March 2021].

Portal de Portugal. n.d. *Mercado de TI cresce em Portugal e se torna oportunidade para estrangeiros*. [online] Available at: <https://portaldeportugal.com/mercado-de-ti-cresce-em-portugal/> [Accessed 12 March 2021].

SAPO Tek. 2021. *O que falta para inovar mais em Portugal? A resposta está na valorização do conhecimento na economia*. [online] Available at: <https://tek.sapo.pt/noticias/negocios/artigos/o-que-falta-para-inovar-mais-em-portugal-a-resposta-esta-na-valorizacao-do-conhecimento-na-economia> [Accessed 15 March 2021].

Business-IT. 2021. *IDC FutureScape: despesa com TIC vai crescer 0,9% ao ano até 2024 | Business-IT*. [online] Available at: <https://business-it.pt/2021/05/03/idc-futurescape-despesa-com-tic-vai-crescer-09-ao-ano-ate-2024/> [Accessed 4 July 2021].

Theloop.pt. n.d. [online] Available at: <https://www.theloop.pt/about_us.html> [Accessed 10 February 2021].
Theloop.pt. n.d. [online] Available at: <https://www.theloop.pt/products.html> [Accessed 10 February 2021].
O Jornal Económico. 2020. *BiLD Analytics: como a ciência dos dados conquistou empresas internacionais*. [online] Available at: <https://jornaleconomico.sapo.pt/noticias/bild-analytics-empresa-de-ciencia-dos-dados-conquistou-empresas-internacionais-575248> [Accessed 16 June 2021].
Universidade NOVA de Lisboa. n.d. *BiLD Analytics*. [online] Available at: <https://www.unl.pt/inovacao/bild-analytics> [Accessed 16 June 2021].
Jornal Expresso. 2021. *Há uma startup em Coimbra que fatura milhões com produtos usados. Loop Co é o nome*. [online] Available at: <https://expresso.pt/economia/2021-02-04-Ha-uma-startup-em-Coimbra-que-fatura-milhoes-com-produtos-usados.-Loop-Co-e-o-nome> [Accessed 17 June 2021].
Appian.com. n.d. *Appian: Low-Code Automation | Business Apps | BPM | RPA*. [online] Available at: <https://appian.com/> [Accessed 17 June 2021].

6.4 DataBases

Damodaran Online: Home Page for Aswath Damodaran. (2021). Retrieved 2 August 2021, from http://pages.stern.nyu.edu/~adamodar/
Portugal Government Bond 10Y | 1994-2021 Data | 2022-2023 Forecast | Quote | Chart. (2021). Retrieved 3 August 2021, from https://tradingeconomics.com/portugal/government-bond-yield

7. Appendixes

Appendix A - Cost of Revenues Book in Loop– in Million €

	2019	2020	2021	2022	2023	2024	2025
Cost of Revenues	0.429	0.284	0.150	0.156	0.162	0.168	0.174
Ratio to Revenues	107.74%	102.48%	63.10%	63.10%	63.10%	63.10%	63.10%

Source: Group Annual Report, Own Calculation

Appendix B - Cost of Revenues Loop Circular– in Million €

	2020	2021	2022	2023	2024	2025
Cost of Revenues	0.667	0.219	0.172	0.210	0.220	0.227
Ratio to Revenues	115.80%	65.97%	37.22%	37.22%	37.22%	37.22%

Source: Group Annual Report, Own Calculation

Appendix C - Cost of Revenues Loop Future– in Million €

	2020	2021	2022	2023	2024	2025
Cost of Revenues	0.183	0.164	0.400	0.433	0.449	0.463
Ratio to Revenues	31.02%	9.53%	20.27%	20.27%	20.27%	20.27%

Source: Group Annual Report, Own Calculation

Appendix D - Cost of Revenues Bild Analytics– in Million €

	2019	2020	2021	2022	2023	2024	2025
Cost of Revenues	0.156	0.434	0.572	0.673	0.699	0.724	0.748
Ratio to Revenues	35.15%	42.25%	34.07%	37.16%	37.16%	37.16%	37.16%

Source: Group Annual Report, Own Calculation

Appendix E - Cost of Revenues The Loop Co– in Million €

	2019	2020	2021	2022	2023	2024	2025
Cost of Revenues	0.427	1.279	0.783	1.086	1.224	1.271	1.315
Ratio to Revenues	107.74%	63.17%	26.76%	28.30%	29.63%	29.65%	29.70%

Source: Group Annual Report, Own Calculation

Appendix F - Other Revenues and Expenses Book in Loop– in Million €

	2019	2020	2021	2022	2023	2024	2025
Other Revenues	0.210	0.284	0.150	0.156	0.162	0.168	0.174
Ratio to Revenues	52.56%	61.10%	34.27%	49.31%	49.31%	49.31%	49.31%
Staff Costs	0.187	0.177	0.116	0.132	0.137	0.142	0.147
Ratio to Revenues	46.89%	46.89%	63.92%	48.87%	53.22%	53.22%	53.22%
S&A Expenses	0.022	0.018	0.007	0.012	0.013	0.013	0.014
Ratio to Revenues	5.46%	6.46%	2.95%	4.96%	4.96%	4.96%	4.96%

Source: Group Annual Report, Own Calculation

Appendix G – Other Revenues and Expenses Loop Circular – in Million €

	2020	2021	2022	2023	2024	2025
Other Revenues	3.70€*	0.005	0.005	0.006	0.006	0.006
Ratio to Revenues	0.0006%	1.43%	1.00%	1.00%	1.00%	1.00%
Staff Costs	0.150	0.268	0.245	0.299	0.314	0.325
Ratio to Revenues	25.64%	80.72%	53.18%	53.18%	53.18%	53.18%
S&A Expenses	0.006	0.002	0.004	0.005	0.005	0.005
Ratio to Revenues	1.08%	0.63%	0.85%	0.85%	0.85%	0.85%

*This value is the only one that is not in million €

Source: Group Annual Report, Own Calculation

Appendix H – Other Revenues and Expenses Loop Future – in Million €

	2020	2021	2022	2023	2024	2025
Other Revenues	0.002	0.146	0.087	0.093	0.097	0.100
Ratio to Revenues	0.29%	8.47%	4.38%	4.38%	4.38%	4.38%
Staff Costs	0.251	0.838	0.903	0.976	1.012	1.045
Ratio to Revenues	42.63%	48.80%	45.72%	45.72%	45.72%	45.72%
S&A Expenses	0.005	0.002	0.009	0.010	0.010	0.011
Ratio to Revenues	0.81%	0.11%	0.46%	0.46%	0.46%	0.46%

Source: Group Annual Report, Own Calculation

Appendix I – Other Revenues and Expenses Bild Analytics– in Million €

	2019	2020	2021	2022	2023	2024	2025
Other Revenues	0.00	0.06€*	0.032	0.036	0.038	0.039	0.040
Ratio to Revenues	0.00%	0.00001%	1.93%	2.00%	2.00%	2.00%	2.00%
Staff Costs	0.106	0.473	0.708	0.800	0.830	0.860	0.888
Ratio to Revenues	23.78%	46.05%	42.23%	44.14%	44.14%	44.14%	44.14%
S&A Expenses	0.0008	0.14€*	0.003	0.003	0.003	0.004	0.004
Ratio to Revenues	0.17%	0.00001%	0.19%	0.18%	0.18%	0.18%	0.18%

*This value is the only one that is not in million €

Source: Group Annual Report, Own Calculation

Appendix J – Other Revenues and Expenses The Loop Co. – in Million €

	2019	2020	2021	2022	2023	2024	2025
Other Revenues	0.304	0.358	0.231	0.235	0.250	0.259	0.268
Staff Costs	0.187	0.872	1.487	1.716	1.897	1.971	2.038
S&A Expenses	0.030	0.027	0.011	0.026	0.027	0.028	0.029

Source: Group Annual Report, Own Calculation

Appendix K – Depreciation and Amortization of all companies and the group – in Million €

	2019	2020	2021	2022	2023	2024	2025
Book in Loop	0.042	0.030	0.027	0.027	0.026	0.026	0.026
Ratio Depreciation	70.22%	83.82%	77.02%	77.02%	77.02%	77.02%	77.02%
Loop Circular		0.004	0.004	0.005	0.005	0.006	0.007
Ratio Depreciation		11.12%	11.12%	11.12%	11.12%	11.12%	11.12%
Loop Future		0.005	0.005	0.005	0.006	0.006	0.006
Ratio Depreciation		49.73%	49.73%	49.73%	49.73%	49.73%	49.73%
Bild Analytics	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ratio Depreciation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
The Loop Co	0.043	0.038	0.036	0.036	0.036	0.037	0.037

Source: Group Annual Report, Own Calculation

Appendix L – EBIT of all companies and the group – in Million €

	2019	2020	2021	2022	2023	2024	2025
Book in Loop	-0.072	0.124	0.180	0.211	0.220	0.229	0.238
Loop Circular		-0.249	-0.157	0.041	0.051	0.053	0.055
Loop Future		0.147	0.854	0.744	0.804	0.833	0.861
Bild Analytics	0.182	0.120	0.427	0.372	0.386	0.400	0.413
The Loop Co	0.014	0.166	1.001	1.284	1.323	1.372	1.420

Source: Group Annual Report, Own Calculation

Appendix M – Tax Rate of all companies and the group

	2019	2020	2021	2022	2023	2024	2025
Book in Loop	-0.67%	1.51%	1.51%	1.51%	1.51%	1.51%	1.51%
Loop Circular		-0.42%	-0.42%	1.00%	1.00%	1.00%	1.00%
Loop Future		1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Bild Analytics	3.67%	4.14%	3.90%	3.90%	3.90%	3.90%	3.90%
The Loop Co	4.47%	4.66%	1.52%	1.76%	1,65%	1.65%	1.65%

Source: Group Annual Report, Own Calculation

Appendix N – Capex of all companies and the group – in Million €

	2019	2020	2021	2022	2023	2024	2025
Book in Loop		0.032	0.028	0.027	0.027	0.027	0.026
Loop Circular		0.004	0.004	0.005	0.005	0.006	0.007
Loop Future			0.006	0.006	0.006	0.006	0.006
Bild Analytics		0.00	0.00	0.00	0.00	0.00	0.00
The Loop Co		0.050	0.037	0.037	0.037	0.037	0.038

Source: Group Annual Report, Own Calculation

Appendix O – Working Capital of all companies and the group – in Million €

	2019	2020	2021	2022	2023	2024	2025
Book in Loop	0.204	0.130	0.111	0.097	0.088	0.080	0.073
Loop Circular	-0.003	0.018	0.019	0.020	0.021	0.022	0.023
Loop Future	0.000	0.464	0.487	0.516	0.535	0.555	0.573
Bild Analytics	0.139	0.111	0.117	0.124	0.128	0.133	0.137
The Loop Co	0.213	0.439	0.435	0.439	0.443	0.447	0.452

Source: Group Annual Report, Own Calculation

Appendix P – FCFF of E-commerce segment – in Million €

	2021	2022	2023	2024	2025	PERPETUITY
EBIT	-0.118	0.030	0.037	0.039	0.040	
TAXES	0.0005	0.0003	0.0004	0.0004	0.0004	
DEPRECIATION	0.003	0.004	0.004	0.005	0.005	
CAPEX	0.003	0.004	0.004	0.005	0.005	
CHANGES IN WC	0.0007	0.0009	0.0006	0.0006	0.00005	
FCFF	-0.119	0.028	0.036	0.038	0.039	0.739

Source: Group Annual Report, Own Calculation

Appendix Q – FCFF of ICT segment – in Million €

	2021	2022	2023	2024	2025	PERPETUITY
EBIT	0.939	1.043	1.064	1.103	1.141	
TAXES	0.012	0.019	0.018	0.019	0.020	
DEPRECIATION	0.005	0.005	0.006	0.006	0.006	
CAPEX	0.006	0.006	0.006	0.006	0.006	
CHANGES IN WC	0.025	0.034	0.023	0.023	0.022	
FCFF	0.900	0.989	1.023	1.061	1.100	26.430

Source: Group Annual Report, Own Calculation

Appendix R – Cost of debt of both segments and the group

	E-Commerce	ICT	The Loop Co
Interest Expense			0.004
Financial Debt			0.255
Tax Rate			4.66%
Cost of Debt	0.00%	0.00%	1.62%

Source: Group Annual Report, Own Calculation

Appendix S - Historical Income Statement of Book in Loop

	2017	2018	2019	2020
Revenues	374 770.13€	561 843,00 €	398 760.68€	277 361.06€
Other Revenues	50 016.36€	84 120.34€	209 597.92€	356 505.22€
Cost of Good Solds	104 314.15€	137 703.84€	82 360.48€	28 282.65€
Cost of services provided	157 276.57€	274 663.46€	347 266.28€	255 948.18€
Staff Costs	81 020.32€	180 374.32€	186 961.35€	177 295.65€
Other Expenses	7 854.36€	8 256.11€	21 763.12€	17 913.34€
EBITDA	74 321.09€	44 965.61€	(29 992.63€)	154 426.46€
Depreciation and Amortization	17 090.8€	38 618.08€	42 510.10€	30 076.14€
EBIT	57 230.29€	6 347.53€	(72 502.73€)	124 350.32€
Interests	- €	- €	- €	4 337.71€
EBT	57 230.29€	6 347.53€	(72 502.73€)	120 012.61€
Taxes	13 096.78€	2 817.68€	483.01€	1 806.47€
Net Profit	44 133.51€	3 529.85€	(72 985.74€)	118 206.14€

Source: Group Annual Report, Own Calculation

Appendix T – Historical Balance Sheet of Book in Loop

	2017	2018	2019	2020
Assets	296 607.51€	384 321.97€	476 508.85 €	686 653.40 €
Non Current Assets	60 021.38€	103 683.59€	198 858.80 €	386 377.56 €
Fixed Tangible Assets	435.20€	3 669.42€	9 092.28 €	11 033.91 €
Intangible Assets	59 518.00€	99 538.00€	51 448.62 €	24 847.75 €
Financial Investments	68.18€	476.17€	138 317.90 €	29 281.50 €
Other Non Current Assets	- €	- €	- €	321 214.40 €
Current Assets	236 586.13€	280 638.38€	277 650.05 €	300 275.84 €
Inventories	11 471.01€	1 925.45€	15 703.41 €	3 198.76 €
Accounts Receivable	38 028.06€	52 420.43€	31 506.62 €	121 466.04 €
EOEP	3.35€	17 042.43€	7 853.33 €	5 015.47 €
Capital Subscrito e Não realizado	- €	- €	- €	- €
Defferals	23.08€	4 722.20€	155.83	1 438.14 €
Other current assets	55.42€	17 141.87€	202 004.31 €	139 184.25 €
Cash and Cash Equivalents	187 005.21€	187 386.00€	20 426.55 €	29 973.18 €
Equity	206 633.51€	186 627.47€	68 560.44 €	65 929.56 €
Share Capital	50 000.00€	50 000.00€	35 000.00 €	35 000.00 €
Equity instruments	112 500.00€	112 500.00€	25 500.00 €	25 500.00 €
Reserves	- €	2 206.68€	2 383.17 €	2 383.17 €
Retained Earnings	- €	17 920.79€	(136 927.22 €)	(143 076.95 €)
Other variations of Equity	- €	- €	132 293.71 €	27 917.20 €
Net Profit	44 133.51€	3 529.85€	10 310.78 €	118 206.14 €
Liabilities	89 974.00€	198 164.65€	407 948.41 €	620 723.84 €
Non Current Liabilities	- €	- €	63 201.13 €	84 250.38 €
Provisions	- €	- €	- €	- €
Bonds Payable	- €	- €	63 201.13 €	84 250.38 €
Other Debts	- €	- €	- €	- €
Current Liabilities	89 974.00€	198 164.65€	344 747.28 €	536 473.46 €
Accounts payables	22 759.81€	706.67€	706.67	706.67
Accruals	- €	- €	29 022.39 €	37 956.45 €
EOEP	17 495.25€	11 454.79€	8 399.48 €	30 452.90 €
Bonds Payable	333.57€	840.44€	120 878.31 €	119 676.98 €
Note Payables	44 518.92€	- €	179 165.69 €	281 509.90 €
Defferals	- €	1 876.63€	6 200.46 €	66 170.56 €
Other current Liabilities	4 866.45€	183 286.12€	374.28€	- €
Equity + Liabilities	296 607.51€	384 321.97€	476 508.85 €	686 653.40 €

Source: Group Annual Report, Own Calculation

Appendix U - Future Income Statement Book in Loop

	2021	2022	2023	2024	2025
Revenues	239 191.87 €	248 759.54 €	258 137.78 €	267 688.88 €	276 442.30 €
Other Revenues	243 271.33 €	290 415.99 €	301 361.51 €	312 511.88 €	322 731.02 €
Cost of Revenues	150 927.10 €	156 964.18 €	162 881.73 €	168 908.36 €	174 431.66 €
Staff Costs	116 885.03 €	132 401.91 €	137 380.93 €	142 464.02 €	147 122.59 €
Other Expenses	7 068.00 €	12 331.12 €	12 803.63 €	13 277.37 €	13 711.54 €
EBITDA	207 583.07 €	237 478.32 €	246 432.99 €	255 551.01 €	263 907.53 €
Depreciation and Amortization	27 167.89 €	26 671.41 €	26 400.98 €	26 170.66 €	25 995.54 €
EBIT	180 415.18 €	210 806.90 €	220 032.01 €	229 380.35 €	237 911.99 €
Interests	3 146.71 €	3 676.79 €	3 837.69 €	4 000.74 €	4 149.54 €
EBT	177 268.47 €	207 130.11 €	216 194.32 €	225 379.62 €	233 762.45 €
Taxes	2 668.30 €	3 117.79 €	3 254.23 €	3 392.49 €	3 518.67 €
Net Profit	174 600.16 €	204 012.32 €	212 940.09 €	221 987.13 €	230 243.78 €

Source: Group Annual Report, Own Calculation

Appendix V – Future Values of Tangible and Intangible Assets of Book in Loop

	2021	2022	2023	2024	2025
Fixed Tangible Assets	11 562,43 €	12 251,56 €	12 713,44 €	13 183,84 €	13 614,95 €
Intangible Assets	23 711,95 €	22 378,21 €	21 565,20 €	20 795,76 €	20 137,27 €

Source: Group Annual Report, Own Calculation

Appendix W– Future Values of Current Assets of Book in Loop

	2021	2022	2023	2024	2025
Inventories	3 052.54 €	2 880.84 €	2 776.18 €	2 677.13 €	2 592.36 €
Accounts Receivable	115 913.77 €	109 393.89 €	105 419.58 €	101 658.22 €	98 439.26 €
EOEP	4 786.21 €	4 517.00 €	4 352.89 €	4 197.58 €	4 064.67 €
Capital Subscrito e Não realizado	- €	- €	- €	- €	- €
Defferals	1 372.40 €	1 295.21 €	1 248.15 €	1 203.62 €	1 165.51 €
Other current assets	132 822.07 €	125 351.14 €	120 797.09 €	116 487.07 €	112 798.56 €
Cash and Cash Equivalents	28 603.09 €	26 994.24 €	26 013.53 €	25 085.37 €	24 291.05 €

Source: Group Annual Report, Own Calculation

Appendix X – Future Values of Current Liabilities of Book in Loop

	2021	2022	2023	2024	2025
Accounts payables	740.52	740.52	740.52	740.52	740.52
Accruals	39 774.56 €	39 774.56 €	39 774.56 €	39 774.56 €	39 774.56 €
EOEP	31 911.59 €	31 911.59 €	31 911.59 €	31 911.59 €	31 911.59 €
Bonds Payable	125 409.51 €	125 409.51 €	125 409.51 €	125 409.51 €	125 409.51 €
Note Payables	294 994.22 €	294 994.22 €	294 994.22 €	294 994.22 €	294 994.22 €
Defferals	69 340.13 €	69 340.13 €	69 340.13 €	69 340.13 €	69 340.13 €
Other current Liabilities	- €	- €	- €	- €	- €

Source: Group Annual Report, Own Calculation

Appendix Y - Historical Income Statement of Loop Circular

	2019	2020
Revenues	- €	585 067.75 €
Other Revenues	- €	3.70€
Cost of Good Solds	- €	3 457.48 €
Cost of services provided	9 133.04 €	674 027.99 €
Staff Costs	4 603.71 €	150 001.49 €
Other Expenses	44.21€	6 295.87 €
EBITDA	(13 780.96€)	(248 711.38€)
Depreciation and Amortization	- €	3 989.31 €
EBIT	(13 780.96€)	(252 700.69€)
Interests	- €	- €
EBT	(13 780.96€)	(252 700.69€)
Taxes	- €	1 045.16 €
Net Profit	(13 780.96€)	(253 745.85€)

Source: Group Annual Report, Own Calculation

Appendix Z – Future Income Statement Loop Circular

	2021	2022	2023	2024	2025
Revenues	332 040.00 €	461 535.60 €	563 073.43 €	591 227.10 €	610 560.23 €
Other Revenues	4 752.54 €	4 615.36 €	5 630.73 €	5 912.27 €	6 105.60 €
Cost of Revenues	219 054.20 €	171 783.55 €	209 575.93 €	220 054.73 €	227 250.52 €
Staff Costs	268 008.07 €	245 430.58 €	299 442.45 €	314 414.57 €	324 695.93 €
Other Expenses	2 088.00 €	3 934.43 €	4 800.01 €	5 040.01 €	5 204.82 €
EBITDA	(152 357.73 €)	45 002.40 €	54 885.77 €	57 630.06 €	59 514.56 €
Depreciation and Amortization	4 433.01 €	4 926.05 €	5 473.93 €	6 082.75 €	6 759.28 €
EBIT	(156 790.74 €)	40 076.35 €	49 411.84 €	51 547.31 €	52 755.29 €
Interests	- €	- €	- €	- €	- €
EBT	(156 790.74 €)	40 076.35 €	49 411.84 €	51 547.31 €	52 755.29 €
Taxes	648.48€	400.76€	494.12€	515.47€	527.55€
Net Profit	(157 439.22 €)	39 675.58 €	48 917.72 €	51 031.84 €	52 227.73 €

Source: Group Annual Report, Own Calculation

Appendix AA - Historical Balance Sheet of Loop Circular

	2019	2020
Assets	2 445.83 €	1 100 985.13 €
Non Current Assets	13.14€	34 637.49 €
Fixed Tangible Assets	- €	478.69€
Intangible Assets	- €	33 750.00 €
Financial Investments	13.14€	408.80€
Other Non Current Assets	- €	- €
Current Assets	2 432.69 €	1 066 347.64 €
Inventories	- €	- €
Accounts Receivable	- €	3 007.94 €
EOEP	2 053.90 €	179 973.70 €
Capital Subscrito e Não realizado	- €	- €
Defferals	81.71€	4.17€
Other current assets	- €	738 749.72 €
Cash and Cash Equivalents	297.08€	144 612.11 €
Equity	(13 780.96€)	144 983.19 €
Share Capital	10,00 €	50 010.00 €
Equity instruments	- €	362 500.00 €
Reserves	- €	- €
Retained Earnings	0.00 €	(13 780.96€)
Other variations of Equity	- €	- €
Net Profit	(13 780.96€)	(253 745.85 €)
Liabilities	16 216.79 €	956 001.94 €
Non Current Liabilities	11 290.00 €	- €
Provisions	- €	- €
Bonds Payable	11 290.00 €	- €
Other Debts	- €	- €
Current Liabilities	4 926.79 €	956 001.94 €
Accounts payables	- €	- €
Accruals	- €	- €
EOEP	375.04€	4 934.75 €
Bonds Payable	- €	52 502.74 €
Note Payables	- €	- €
Defferals	- €	- €
Other current Liabilities	4 551.75 €	898 564.45 €
Equity + Liabilities	2 445.83 €	1 100 985.13 €

Source: Group Annual Report, Own Calculation

Appendix BB – Future Values of Tangible and Intangible Assets of Loop Circular

	2021	2022	2023	2024	2025
Fixed Tangible Assets	501.62€	531.52€	551.55€	571.96€	590.66€
Intangible Assets	35 366.63 €	37 474.48 €	38 887.26 €	40 326.09 €	41 644.76 €

Source: Group Annual Report, Own Calculation

Appendix CC – Future Values of Current Assets of Loop Circular

	2021	2022	2023	2024	2025
Inventories	- €	- €	- €	- €	- €
Accounts Receivable	3 152.02 €	3 339.88 €	3 465.79 €	3 594.03 €	3 711.55 €
EOEP	188 594.44 €	199 834.67 €	207 368.44 €	215 041.07 €	222 072.91 €
Capital Subscrito e Não realizado	- €	- €	- €	- €	- €
Defferals	4.37€	4.63€	4.80€	4.98€	5.15€
Other current assets	774 135.83 €	820 274.33 €	851 198.67 €	882 693.02 €	911 557.08 €
Cash and Cash Equivalents	151 539.03 €	160 570.76 €	166 624.27 €	172 789.37 €	178 439.58 €

Source: Group Annual Report, Own Calculation

Appendix DD – Future Values of Current Liabilities of Loop Circular

	2021	2022	2023	2024	2025
Accounts payables	- €	- €	- €	- €	- €
Accruals	- €	- €	- €	- €	- €
EOEP	5 171.12 €	5 479.32 €	5 685.89 €	5 896.27 €	6 089.08 €
Bonds Payable	55 017.62 €	58 296.67 €	60 494.46 €	62 732.75 €	64 784.11 €
Note Payables	- €	- €	- €	- €	- €
Defferals	- €	- €	- €	- €	- €
Other current Liabilities	941 605.69 €	997 725.39 €	1 035 339.63 €	1 073 647.20 €	1 108 755.46 €

Source: Group Annual Report, Own Calculation

Appendix EE - Historical Income Statement of Loop

	2019	2020
Revenues	- €	589 223.71 €
Other Revenues	- €	1 679.64 €
Cost of Good Solds	- €	- €
Cost of services provided	- €	182 761.87 €
Staff Costs	- €	251 206.87 €
Other Expenses	- €	4 793.54 €
EBITDA	- €	152 141.07 €
Depreciation and Amortization	- €	4 864.30 €
EBIT	- €	147 276.77 €
Interests	- €	- €
EBT	- €	147 276.77 €
Taxes	- €	1 467.12 €
Net Profit	- €	145 809.65 €

Source: Group Annual Report, Own Calculation

Appendix 32 - Historical Balance Sheet of Loop Future

	2019	2020
Assets	- €	283 494.69 €
Non Current Assets	- €	11 099.15 €
Fixed Tangible Assets	- €	9 780.95 €
Intangible Assets	- €	- €
Financial Investments	- €	1 318.20 €
Other Non Current Assets	- €	- €
Current Assets	- €	272 395.54 €
Inventories	- €	- €
Accounts Receivable	- €	252 604.03 €
EOEP	- €	212.00€
Capital Subscrito e Não realizado	- €	- €
Defferals	- €	152.38€
Other current assets	- €	18 864.60 €
Cash and Cash Equivalents	- €	562.53€
Equity	- €	145 810.65 €
Share Capital	- €	1.00€
Equity instruments	- €	- €
Reserves	- €	- €
Retained Earnings	- €	- €
Other variations of Equity	- €	- €
Net Profit	- €	145 809.65 €
Liabilities	- €	137 684.04 €
Non Current Liabilities	- €	3 173.22 €
Provisions	- €	- €
Bonds Payable	- €	3 173.22 €
Other Debts	- €	- €
Current Liabilities	- €	134 510.82 €
Accounts payables	- €	- €
Accruals	- €	- €
EOEP	- €	56 029.48 €
Bonds Payable	- €	8 986.64 €
Note Payables	- €	65 768.38 €
Defferals	- €	3 597.01 €
Other current Liabilities	- €	129.31€
Equity + Liabilities	- €	283 494.69 €

Source: Group Annual Report, Own Calculation

Appendix 33 - Future Income Statement of Loop Future

	2021	2022	2023	2024	2025
Revenues	1 717 959.00 €	1 975 652.85 €	2 133 705.08 €	2 212 652.17 €	2 285 005.89 €
Other Revenues	145 570.90 €	86 519.16 €	93 440.70 €	96 898.00 €	100 066.57 €
Cost of Revenues	163 655.12 €	400 499.76 €	432 539.74 €	448 543.71 €	463 211.09 €
Staff Costs	838 430.04 €	903 242.55 €	975 501.96 €	1 011 595.53 €	1 044 674.70 €
Other Expenses	1 916.00 €	9 138.01 €	9 869.05 €	10 234.21 €	10 568.87 €
EBITDA	859 528.74 €	749 291.69 €	809 235.02 €	839 176.72 €	866 617.80 €
Depreciation and Amortization	5 097.30 €	5 401.10 €	5 604.72 €	5 812.10 €	6 002.15 €
EBIT	854 431.44 €	743 890.59 €	803 630.30 €	833 364.63 €	860 615.65 €
Interests	- €	- €	- €	- €	- €
EBT	854 431.44 €	743 890.59 €	803 630.30 €	833 364.63 €	860 615.65 €
Taxes	8 511.55 €	7 410.38 €	8 005.49 €	8 301.69 €	8 573.15 €
Net Profit	845 919.89 €	736 480.21 €	795 624.82 €	825 062.94 €	852 042.49 €

Source: Group Annual Report, Own Calculation

Appendix 34 – Future Values of Tangible and Intangible Assets of Loop Future

	2021	2022	2023	2024	2025
Fixed Tangible Assets	10 249.46 €	10 860.33 €	11 269.76 €	11 686.74 €	12 068.90 €
Intangible Assets	- €	- €	- €	- €	- €

Source: Group Annual Report, Own Calculation

Appendix 35 – Future Values of Current Assets of Loop Future

	2021	2022	2023	2024	2025
Inventories	- €	- €	- €	- €	- €
Accounts Receivable	264 703.76 €	280 480.11 €	291 054.21 €	301 823.21 €	311 692.83 €
EOEP	222.15€	235.40€	244.27€	253.31€	261.59€
Capital Subscrito e Não realizado	- €	- €	- €	- €	- €
Defferals	159.68€	169.20€	175.57€	182.07€	188.02€
Other current assets	19 768.21 €	20 946.40 €	21 736.08 €	22 540.31 €	23 277.38 €
Cash and Cash Equivalents	589.48€	624.61€	648.16€	672.14€	694.12€

Source: Group Annual Report, Own Calculation

Appendix 36 – Future Values of Current Liabilities of Loop Future

	2021	2022	2023	2024	2025
Accounts payables	- €	- €	- €	- €	- €
Accruals	- €	- €	- €	- €	- €
EOEP	58 713.29 €	62 212.60 €	64 558.02 €	66 946.67 €	69 135.82 €
Bonds Payable	9 417.10 €	9 978.36 €	10 354.54 €	10 737.66 €	11 088.78 €
Note Payables	68 918.69 €	73 026.24 €	75 779.33 €	78 583.16 €	81 152.83 €
Defferals	3 769.31 €	3 993.96 €	4 144.53 €	4 297.88 €	4 438.42 €
Other current Liabilities	135.50€	143.58€	148.99€	154.51€	159.56€

Source: Group Annual Report, Own Calculation

Appendix 37 - Historical Income Statement of Bild Analytics

	2018	2019	2020
Revenues	32 019.00€	445 092.09 €	1 028 281.57 €
Other Revenues	- €	- €	0.06€
Cost of Good Solds	- €	- €	- €
Cost of services provided	31 804.39€	156 443.53 €	434 490.97 €
Staff Costs	4 677.40€	105 826.31 €	473 472.28 €
Other Expenses	- €	751.73€	0.14€
EBITDA	(4 462.79€)	182 070.52 €	120 318.24 €
Depreciation and Amortization	- €	- €	- €
EBIT	(4 462.79€)	182 070.52 €	120 318.24 €
Interests	- €	- €	- €
EBT	(4 462.79€)	182 070.52 €	120 318.24 €
Taxes	- €	6 681.10 €	4 979.34 €
Net Profit	(4 462.79€)	175 389.42 €	115 338.90 €

Source: Group Annual Report, Own Calculation

Appendix 38 - Future Income Statement Bild Analytics

	2021	2022	2023	2024	2025
Revenues	1 677 425.00 €	1 811 619.00 €	1 879 917.04 €	1 949 473.97 €	2 013 221.77 €
Other Revenues	32 322.96 €	36 232.38 €	37 598.34 €	38 989.48 €	40 264.44 €
Cost of Revenues	571 568.50 €	673 178.43 €	698 557.26 €	724 403.88 €	748 091.88 €
Staff Costs	708 324.32 €	799 575.14 €	829 719.13 €	860 418.74 €	888 554.43 €
Other Expenses	3 228.00 €	3 260.91 €	3 383.85 €	3 509.05 €	3 623.80 €
EBITDA	426 627.14 €	371 836.89 €	385 855.14 €	400 131.78 €	413 216.09 €
Depreciation and Amortization	- €	- €	- €	- €	- €
EBIT	426 627.14 €	371 836.89 €	385 855.14 €	400 131.78 €	413 216.09 €
Interests	- €	- €	- €	- €	- €
EBT	426 627.14 €	371 836.89 €	385 855.14 €	400 131.78 €	413 216.09 €
Taxes	16 655.50 €	14 516.49 €	15 063.76 €	15 621.12 €	16 131.93 €
Net Profit	409 971.64 €	357 320.40 €	370 791.38 €	384 510.66 €	397 084.16 €

Source: Group Annual Report, Own Calculation

Appendix 39 - Historical Balance Sheet of Bild Analytics

	2018	2019	2020
Assets	14 938.50€	271 952.22 €	516 988.81 €
Non Current Assets	- €	- €	1 646.46 €
Fixed Tangible Assets	- €	- €	- €
Intangible Assets	- €	- €	- €
Financial Investments	- €	- €	1 646.46 €
Other Non Current Assets	- €	- €	- €
Current Assets	14 938.50€	271 952.22 €	515 342.35 €
Inventories	- €	- €	- €
Accounts Receivable	4 225.40€	167 865.76 €	259 631.09 €
EOEP	- €	1 296.19 €	54 365.43 €
Capital Subscrito e Não realizado	- €	- €	- €
Defferals	- €	63 921.06 €	63 921.06 €
Other current assets	- €	6 887.05 €	- €
Cash and Cash Equivalents	10 713.10€	31 982.16 €	137 424.77 €
Equity	(4 462.79€)	171 026.63 €	250 476.79 €
Share Capital	- €	100.00€	100.00€
Equity instruments	- €	- €	- €
Reserves	- €	20.00€	20.00€
Retained Earnings	- €	(4 462.79€)	135 017.89 €
Other variations of Equity	- €	- €	- €
Net Profit	(4 462.79€)	175 369.42 €	115 338.90 €
Liabilities	19371.29	100 925.59 €	266 512.02 €
Non Current Liabilities	- €	- €	- €
Provisions	- €	- €	- €
Bonds Payable	- €	- €	- €
Other Debts	- €	- €	- €
Current Liabilities	19371.29	100 925.59 €	266 512.02 €
Accounts payables	- €	6 494.48 €	20 495.83 €
Accruals	- €	- €	- €
EOEP	1 465.45€	31 763.73 €	142 838.22 €
Bonds Payable	- €	- €	- €
Note Payables	- €	- €	- €
Defferals	- €	- €	- €
Other current Liabilities	17 905.84€	62 667.38 €	103 177.97 €
Equity + Liabilities	14 938.50€	271 952.22 €	516 988.81 €

Source: Group Annual Report, Own Calculation

Appendix 40 – Future Values of Tangible and Intangible Assets of Bild Analytics

	2021	2022	2023	2024	2025
Fixed Tangible Assets	- €	- €	- €	- €	- €
Intangible Assets	- €	- €	- €	- €	- €

Source: Group Annual Report, Own Calculation

Appendix 41 – Future Values of Current Assets of Bild Analytics

	2021	2022	2023	2024	2025
Inventories	- €	- €	- €	- €	- €
Accounts Receivable	272 067.42 €	288 282.64 €	299 150.89 €	310 219.48 €	320 363.65 €
EOEP	56 969.53 €	60 364.92 €	62 640.68 €	64 958.38 €	67 082.52 €
Capital Subscrito e Não realizado	- €	- €	- €	- €	- €
Defferals	66 982.88 €	70 975.06 €	73 650.82 €	76 375.90 €	78 873.39 €
Other current assets	- €	- €	- €	- €	- €
Cash and Cash Equivalents	144 007.42 €	152 590.26 €	158 342.91 €	164 201.60 €	169 570.99 €

Source: Group Annual Report, Own Calculation

Appendix 42 - Future Values of Current Liabilities of Bild Analytics

	2021	2022	2023	2024	2025
Accounts payables	21 477.58 €	22 757.64 €	23 615.61 €	24 489.38 €	25 290.19 €
Accruals	- €	- €	- €	- €	- €
EOEP	149 680.17 €	158 601.11 €	164 580.37 €	170 669.84 €	176 250.75 €
Bonds Payable	- €	- €	- €	- €	- €
Note Payables	- €	- €	- €	- €	- €
Defferals	- €	- €	- €	- €	- €
Other current Liabilities	108 120.19 €	114 564.16 €	118 883.23 €	123 281.91 €	127 313.22 €

Source: Group Annual Report, Own Calculation

Appendix 43 - Historical Income Statement of The Loop Co

	2017	2018	2019	2020
Revenues	374 770.13€	561 843,00 €	398 760.68 €	2 025 182.68 €
Other Revenues	50 016.36€	84 120.34€	304 174.17 €	358 187.68 €
Cost of Good Solds	104 314.15€	137 703.84€	82 360.48 €	30 875.76 €
Cost of services provided	157 276.57€	274 663.46€	347 266.28 €	1 248 374.72 €
Staff Costs	81 020.32€	180 374.32€	186 961.35 €	872 434.23 €
Other Expenses	7 854.36€	8 256.11€	29 646.83 €	27 428.88 €
EBITDA	74 321.09€	44 965.61€	56 699.91 €	204 256.76 €
Depreciation and Amortization	17 090.8€	38 618.08€	42 510.10 €	37 932.42 €
EBIT	57 230.29€	6 347.53€	14 189.81 €	166 324.34 €
Interests	- €	- €	3 396.02 €	4 337.71 €
EBT	57 230.29€	6 347.53€	10 793.79 €	161 986.63 €
Taxes	13 096.78€	2 817.68€	483.01€	7 543.00 €
Net Profit	44 133.51€	3 529.85€	10 310.78 €	154 443.63 €

Source: Group Annual Report, Own Calculation

Appendix 44 - Historical Balance Sheet of The Loop Co

	2017	2018	2019	2020
Assets	296 607.51€	384 321.97€	476 508.85 €	2 157 779.10 €
Non Current Assets	60 021.38€	103 683.59€	198 858.80 €	424 607.35 €
Fixed Tangible Assets	435.20€	3 669.42€	9 092.28 €	21 173.88 €
Intangible Assets	59 518.00€	99 538.00€	51 448.62 €	50 160.25 €
Financial Investments	68.18€	476.17€	138 317.90 €	32 058.82 €
Other Non Current Assets	- €	- €	- €	321 214.40 €
Current Assets	236 586.13€	280 638.38€	277 650.05 €	1 733 171.76 €
Inventories	11 471.01€	1 925.45€	15 703.41 €	3 198.76 €
Accounts Receivable	38 028.06€	52 420.43€	31 506.62 €	558 067.79 €
EOEP	3.35€	17 042.43€	7 853.33 €	178 263.55 €
Capital Subscrito e Não realizado	- €	- €	- €	- €
Defferals	23.08€	4 722.20€	155.83€	46 338.39 €
Other current assets	55.42€	17 141.87€	202 004.31 €	712 111.14 €
Cash and Cash Equivalents	187 005.21€	187 386.00€	20 426.55 €	235 192.13 €
Equity	206 633.51€	186 627.47€	68 560.44 €	495 811.36 €
Share Capital	50 000.00€	50 000.00€	35 000.00 €	72 578.50 €
Equity instruments	112 500.00€	112 500.00€	25 500.00 €	297 375.00 €
Reserves	- €	2 206.68€	2 383.17 €	2 397.17 €
Retained Earnings	- €	17 920.79€	(136 927.22 €)	(58 900.15 €)
Other variations of Equity	- €	- €	132 293.71 €	27 917.20 €
Net Profit	44 133.51€	3 529.85€	10 310.78 €	154 443.63 €
Liabilities	89 974.00€	198 164.65€	407 948.41 €	1 661 967.75 €
Non Current Liabilities	- €	- €	63 201.13 €	87 423.60 €
Provisions	- €	- €	- €	- €
Bonds Payable	- €	- €	63 201.13 €	87 423.60 €
Other Debts	- €	- €	- €	- €
Current Liabilities	89 974.00€	198 164.65€	344 747.28 €	1 574 544.15 €
Accounts payables	22 759.81€	706.67€	706.67€	15 053.75 €
Accruals	- €	- €	29 022.39 €	37 956.45 €
EOEP	17 495.25€	11 454.79€	8 399.48 €	190 170.20 €
Bonds Payable	333.57€	840.44€	120 878.31 €	168 040.68 €
Note Payables	44 518.92€	- €	179 165.69 €	347 278.28 €
Defferals	- €	1 876.63€	6 200.46 €	69 767.57 €
Other current Liabilities	4 866.45€	183 286.12€	374.28€	746 277.23 €
Equity + Liabilities	296 607.51€	384 321.97€	476 508.85 €	2 157 779.10 €

Source: Group Annual Report, Own Calculation

Appendix 45 - Future Income Statement The Loop Co

	2021	2022	2023	2024	2025
Revenues	2 925 977.97 €	3 838 697.39 €	4 130 089.86 €	4 288 393.15 €	4 428 623.60 €
Other Revenues	231 108.98 €	235 273.13 €	250 314.15 €	259 648.43 €	268 252.10 €
Cost of Revenues	783 016.55 €	1 086 399.56 €	1 223 828.32 €	1 271 483.19 €	1 315 163.35 €
Staff Costs	1 487 751.72 €	1 715 544.42 €	1 897 167.32 €	1 970 673.87 €	2 037 612.36 €
Other Expenses	10 550.10 €	26 679.56 €	28 555.33 €	29 660.28 €	30 640.36 €
EBITDA	1 037 066.28 €	1 319 160.80 €	1 357 118.17 €	1 408 048.88 €	1 455 253.50 €
Depreciation and Amortization	35 589.95 €	35 767.05 €	36 111.15 €	36 544.82 €	37 067.15 €
EBIT	1 001 476.33 €	1 283 393.75 €	1 321 007.02 €	1 371 504.06 €	1 418 186.35 €
Interests	3 146.71 €	3 676.79 €	3 837.69 €	4 000.74 €	4 149.54 €
EBT	998 329.62 €	1 279 716.96 €	1 317 169.33 €	1 367 503.33 €	1 414 036.81 €
Taxes	15 151.75 €	22 487.59 €	21 791.85 €	22 625.41 €	23 422.27 €
Net Profit	983 177.87 €	1 257 229.37 €	1 295 377.49 €	1 344 877.91 €	1 390 614.54 €

Source: Group Annual Report, Own Calculation

Appendix 46 – Future Values of Tangible and Intangible Assets of The Loop Co

	2021	2022	2023	2024	2025
Fixed Tangible Assets	22 188.11 €	23 510.52 €	24 396.86 €	25 299.55 €	26 126.84 €
Intangible Assets	50 236.92 €	50 484.06 €	50 730.65 €	51 040.32 €	51 370.83 €

Source: Group Annual Report, Own Calculation

Appendix 47 – Future Values of Current Assets of The Loop Co

	2021	2022	2023	2024	2025
Inventories	3 052.54 €	2 880.84 €	2 776.18 €	2 677.13 €	2 592.36 €
Accounts Receivable	573 428.74 €	594 176.76 €	608 478.75 €	623 330.59 €	637 170.31 €
EOEP	186 332.87 €	196 883.84 €	203 971.96 €	211 202.56 €	217 838.71 €
Capital Subscrito e Não realizado	- €	- €	- €	- €	- €
Defferals	48 423.37 €	51 150.42 €	52 982.90 €	54 852.55 €	56 568.76 €
Other current assets	733 192.16 €	761 503.29 €	780 932.18 €	801 047.15 €	819 743.75 €
Cash and Cash Equivalents	243 652.03 €	254 860.09 €	262 469.92 €	270 290.65 €	277 514.55 €

Source: Group Annual Report, Own Calculation

Appendix 48 – Future Values of Current Liabilities of The Loop Co

	2021	2022	2023	2024	2025
Accounts payables	15 774.83 €	16 670.87 €	17 271.44 €	17 883.09 €	18 443.65 €
Accruals	39 774.56 €	39 774.56 €	39 774.56 €	39 774.56 €	39 774.56 €
EOEP	199 279.35 €	209 254.47 €	215 940.29 €	222 749.36 €	228 989.75 €
Bonds Payable	176 089.82 €	179 110.37 €	181 134.89 €	183 196.73 €	185 086.37 €
Note Payables	363 912.91 €	368 020.46 €	370 773.55 €	373 577.39 €	376 147.06 €
Defferals	73 109.44 €	73 334.09 €	73 484.66 €	73 638.01 €	73 778.55 €
Other current Liabilities	782 023.91 €	828 632.53 €	859 871.98 €	891 687.24 €	920 845.41 €

Source: Group Annual Report, Own Calculation