

Carrefour's Current Development Situation and Its Valuation

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ABSTRACT

Brick-and-mortar retail has been hit hard by the rise of the digital age, and Amazon's unique business model fits the digital model so well that it has eclipsed other offline retailers. As a result, today's offline retailers have received little focus. As a result, many offline grocers have begun to undertake a digital transformation and look to diversify their retail operations to align with The Times. At this point, the value of offline retailers will change, meaning the company that completes the mature digital transformation early will be able to significantly increase its value in the future. This is the case with Carrefour, whose unique network of retail stores has naturally played a key role in the digital transformation. For this article is to study Carrefour's fundamental background, its transformation strategy and its development dynamics in the next 3-5 years. Finally, Carrefour's profit and key financial indicators are examined to analyze whether Carrefour is healthy in financial terms and to provide an assessment and forecast for its value. According to a number of studies and calculations, Carrefour's value has been obviously underestimated by the market. Carrefour has a high turnover and therefore a high market share. When it comes to the market value of retail companies, market share is more important than net profit. Finally, this essay is intended to raise awareness of offline food retailers that have already made the digital transformation or have a wonderful and viable strategy for doing so. Moreover, it might arouse the interest to invest more in these grocery retailers.

Keywords: Valuation, Strategy, Analysis, Carrefour

1. INTRODUCTION

1.1 Background

Carrefour is one of the world's largest food retail companies, operating 12,225 shops in over 30 countries, including convenience stores, grocery shops and hypermarkets (S&P Global, 2021). With a presence on three continents and a strong upward trend globally over the past five years, it is paramount to examine its presence and value to ensure it remains competitive with a strong market position to investors. In this paper, we will conduct a financial analysis and a business valuation of the Carrefour Group: first an analysis of the retail and consumer goods industry, then a financial analysis of Carrefour, and finally a discounted cash flow (DCF) model and multiples valuation methods (such as P/E ratio, Enterprise Value/EBITDA, Enterprise Value/EBIT, etc.) to estimate its enterprise value.

1.2 Related research

Colla and Dupuis present 7 key questions of particular interest to leading managers and researchers, including "Vertical competition or horizontal specialization?", "The place for innovation in retailing?", "What are the key factors for successful internationalization?", "The international critical size?", "The portfolio of shop formats?", "The new consideration of the information society and the challenge of e-commerce?", "The relationship between suppliers and retailers", the trade margin "or working on the value chain". Meanwhile, research has indicated that enormous reactive capabilities will be needed to succeed and that strategies must focus on the long term while retaining the ability to respond very quickly [1].

Baud and Durand describe the financial trajectories of Carrefour, Walmart and Amazon and how they are making the digital transformation. Through a combination of accounting, business and economic analyses, the study presents how Carrefour (second only

to Walmart in the 2000s) has slipped to tenth place. At the same time, it provides new insights into the role of fixed cost optimisation in the digital age [2].

Innovation in providing interactive services to consumers through multiple channels is critical for retailers in today's unstable situation. Interactive service innovation provides opportunities for retailers by creating new markets or providing new benefits in interactive markets. However, they also cause a threat as existing customers face new alternatives to competitors. L. Berry explores some of the most exciting opportunities in interactive retail services, including increased consumer power, channel synergy, pre- and post-transaction services, and consumer heterogeneity. As we focus on these opportunity issues, we identify anxieties in knowledge and issues related to these anxieties that deserve special attention. Taken together, these interactive issues constitute a research agenda on the topic of retail interactive service innovation [3]

Chang and Hu compare three major international retail companies: Carrefour, Wal-Mart and Metro. They also examined the companies' development strategies in China and analyzed why they were not doing so well in the Chinese market. Finally, some suggestions are put forward to help Chinese companies enter foreign markets and the advantages of Chinese retail companies abroad are explored [4]

Multinational retail companies face different challenges and pursue different strategies when expanding overseas markets. The main purpose of this study is to determine how the three major sectors of retail MNCS -- Wal-Mart, Carrefour and Shoprite -- have identified the challenges they face, as well as how they are structuralizing their entry strategies into the mainland market, and who are facing the social, cultural and demographic challenges. Carrefour's main strategy is to expand internationally in Africa through international partnerships with local and regional companies [5].

Christian examines Walmart to show its strategic objectives and provide an analysis of the industry and the company's position in the industry. External factors that affect Walmart are also discussed in this paper. The retail industry is dominated by a few major players in a highly competitive field. To explore Walmart, information is provided on Porter's five forces model, an analysis of the macro environment PESTE and an analysis of SWOT. Then, the strategy and possible future directions for Walmart are discussed [6].

Although People start to be aware the importance of retail innovation management, most of these industries have focused only on studying consumer adoption of the most effective new systems. For these reasons, a deeper understanding is needed in three main areas: retail innovation management approaches, the degree of innovation heterogeneity and innovation drivers. Based

on these insights, this paper explores the extent to which there are similarities and differences in the key drivers of innovation in the retail sector compared to other industries [7].

Brick-and-mortar retail is struggling with digital transformation and the transition to e-commerce. Similarly, technological developments in retail have raised new questions about the nature of the relationship between retailer and customer. To ensure strong customer relationships and support customer satisfaction, retailers need to translate their real-world strengths into digital offerings and provide new value-added services to customers. Therefore, Meyer wants to evaluate, compare and categorise a combination of emotional and situational approaches as well as services that combine online and offline strengths [8].

A large number of multinational companies are beginning to realize that China has a very large market. But these companies lack the depth of understanding and skills needed to do business effectively in China because it is an emerging country. Few countries used to pay attention to China. Chuang discussed the strategic and effective sexual desire of two leading international companies in China in an attempt to solve paradox caused by competing demand [9]

Steiger examines the practical aspects of the widely used discounted cash flow valuation method and shows how to calculate free cash flow and its weaknesses and potential. The DCF method is a very powerful tool to analyse even complex situations. In the meantime, some other valuation methods are also presented. In summary, the DCF method in combination with other methods such as EV/EBIT, EV/EBITDA, EV/SALES is an effective approach to obtain a realistic range of appropriate company values [10].

1.3 Objectvie

This paper is examined from three perspectives. The first point ranges from the background of Carrefour and its products to the strategy of Carrefour in the next five years to understand a development trend and the development potential of Carrefour. The second part analyses the Carrefour market development status and prospects, competitive advantages, disadvantages and threats of Carrefour. Finally, a prediction is made by examining Carrefour's financial data from the last 3 to 7 years. The relative valuation method and the DCF absolute valuation method are used to value Carrefour to help investors make better investment decisions.

2. CARREFOUR GROUP

2.1 Carrefour background

Carrefour is a global retail company founded in 1958

in Massy France. He was a leader in the European retail industry and was once the largest retailer in Europe. He currently employs 321,283 people and operates HyperMarket, grocery, cash-and-carry stores, and Convenience Stores, with more than 120,000 stores in more than 30 countries

Carrefour has been the first to enter national markets such as Brazil and China. Carrefour's three main markets are Europe, Latin America and Asia. And 75 percent of the products come from local suppliers where the store is located

For 60 years, Carrefour has been a world leader in retailing with the aim of making its products affordable and accessible to everyone: the inventors of the "hypermarket". According to financial data for December 2020 and January 2021, the company already accounts for 19.8% of supermarkets and hypermarkets in France, just behind its competitor The Leclerc Group with 22.3% market share (Statista, 2022). Carrefour's last share price is EUR 17.92 and its market capitalization is around EUR 13.8 billion (Yahoo finance, 2022).

2.2 Carrefour retail strategy 2026

The 2026 digital retail strategy is based on the Carrefour Group's unique and decisive advantages resulting from the profound transformation carried out since 2018. It is based on a "data-centric, digital approach" and will be implemented on the basis of four key factors: Acceleration of e-commerce, expansion of data and media activities in retail, digitalization of financial services and transformation of traditional retail through digitalization.

Carrefour, a traditional retailer with e-commerce capabilities, aims to transform itself into a digital retailer that puts digitalization and data at the heart of all its activities and its value creation model. This profound transformation, which we aim to achieve by 2026, will

unleash the full potential of the omnichannel system that is now Carrefour's DNA and a unique asset in the industry.

Carrefour wants to triple its e-commerce Gross Merchandise Value (GMV) to 10billion by 2026 The Group also expects digital to contribute an additional €600 million to recurring operating income (ROI) in 2026 compared to 2021.

2.3 Carrefour products

Convenient shops: They are cosy, modern, close to the customer, with a range of products tailored to the location, attractive prices and long opening hours

Carrefour Express: This is the standard mini-market.

Carrefour City: It is usually located in a city with a sufficiently large population. It contains only items such as groceries, hygiene products, basic kitchen appliances and pet supplies.

Carrefour Contact: The Carrefour Contact is similar to the Carrefour City, but is usually located in smaller towns. Its size is the same as Carrefour City.

Carrefour Supermarket Brand: Carrefour Supermarkets is spread across cities and outlying regions. The area of its supermarket is about 1000 to 3400 square meters. It provides customers with fresh products as well as non-food products to specific local customers.

Carrefour Hypermarkets: The Carrefour Hypermarket format is designed for large shopping trips: a mix of 20,000 to 80,000 products on a sales area of 2,400 to 23,000m2.

Cash & Carry: This is a large wholesale warehouse in which people coming to buy something they want, and then pay the bill in cash and take them away on their own. It is mainly operated in Brazil. Table 1 below illustrates its distribution in the world.[13]

Table 1. Distribution of Carrefour stores

	Worldwide	France	Europe
Convenient stores	7193	3959	6605
Carrefour supermarkets	3412	1071	2869
Carrefour hypermarkets	1207	248	703
Cash&carry stores	413	146	186(Brazil)

3. RETAIL MARKET ANALYSIS

3.1 Retail industry current situation

Carrefour belongs to the retail market, more precisely to the "food retail" market, which is very competitive. Only a few main players, including Carrefour and its

competitors Walmart, Amazon and Costco, hold the largest market share. These organised retailers are gaining market share by expanding their shops and exploring business potential in new areas. The growth of the retail industry is highly dependent on the macroeconomic environment as these products are very sensitive. A market report by The Business Research Company (2021) predicts that the global retail market has

grown at a compound annual growth rate (CAGR) of 2.4% since 2015 and will grow at a CAGR of 7.7% between 2020 and 2025 and 6.3% by 2030.

Retail is an important part of consumers' lives in Europe. In 2020, retail spending accounted for a large share of private consumption in the region. The largest retail market in Europe, and the one with the highest turnover, was Germany, worth around €560 billion in 2017. Other important markets were France (around € 469 billion), the United Kingdom (around € 464 billion) and Italy (around € 323 billion).

3.1.1 Online retail

Although the majority of retail transactions still take place offline, online retailing has become increasingly important in recent years. One factor that accelerated the transition to online retailing was the coronavirus pandemic (COVID -19). Surveys showed that more consumers in several European countries shopped online in both 2020 and 2021 as the pandemic affected their shopping habits. In 2021, e-commerce sales in Europe were estimated at around US\$ 465 million, and according to a recent Statista forecast, this figure is expected to rise sharply to around US\$ 570 million in the next few years. While about 480 million consumers shopped online in 2020, this figure is expected to exceed 500 million by 2021.

3.2 Carrefour development situation

SWOT Situation analysis (or SWOT matrix) is a strategic planning and management technique that helps a person or organisation identify strengths, weaknesses, opportunities and threats in the context of competition or project planning. It is sometimes also referred to as situation assessment or situation analysis. As Carrefour's main market is in Europe, this analysis focuses on some factors in Europe

3.2.1 Strength

Carrefour has great market influence and strong brand awareness around the world. The shops have strong self-management rights, enabling them to make appropriate product changes in a timely manner according to local needs. Carrefour's strong free cash flow can provide the company with funds to expand new projects. Multi-format strategy - Carrefour has a diversified portfolio of hypermarkets, discounters, cash-and-carry shops, convenience stores and grocery shops. However, the company also has a diversified product portfolio and offers a wide range of products in different categories. Carrefour has a strong and local base of reliable raw material suppliers that enable the company to overcome supply chain bottlenecks. Carrefour's numerous shops could offer the fastest and best delivery service for online purchases in the near future.

3.2.2 Opportunities

Inflation has been low and is expected to remain low for the next two years. This will keep input costs low over the next two years. The fast-growing e-commerce and online shopping sector is a great opportunity for Carrefour, which could lead to an increase in market share in Europe and other countries.

3.2.3 Weakness

Carrefour has a limited presence in some emerging economies in Asia and Africa and has underperformed in some Asian markets. The company announced the sale of 80% of its retail business in China to local operators in 2019 and also plans to exit the country altogether in the future. This means that Carrefour has lost its biggest retail market of the future. The financial planning was not done correctly and effectively. The current asset and current asset ratios show that the companies can use their cash more efficiently than they currently do.

3.2.4 Threat

Rising labour costs and a slowing economy are driving up costs. Many suppliers have entered the market and are competing for market share. As the number of suppliers decreases, the bargaining power of suppliers increases year by year. This means that Carrefour's input costs are likely to increase. Stringent government policies and taxes that may impact Carrefour's global business Liability laws vary from country to country. Given political changes in these markets, Carrefour may be exposed to various liability claims.

4. VALUATION

4.1 Valuation method and its factors

There are many valuation methods, DCF and relative valuation are the most commonly used. However, no model can perfectly and accurately identify the value of a company, so we need to compare different models to determine a method that best matches the value of a company.

EV/EBITDA is used to estimate enterprise value. Calculate the EB/EBITDA of a comparable competitor and multiply it by the EBITDA of the company to be valued to roughly calculate the Enterprise value of the company to be valued. This result is affected by the selection of comparable competitors, so the selection of comparable competitors should be similar to the business and development of the company to be evaluated to reduce the error

$$\text{Enterprise multiple} = \text{EV/EBITDA} \quad (1)$$

P/E ratio is the market value of a company divided by

its net profit. This ratio can quickly understand the relationship between a company's earning power and enterprise value. Once net profit is negative, this formula fails. So this approach doesn't work for startups, which often don't make money at first and even lose money.

$$P/E = \text{Market value per share} / \text{Earning per share (EPS)} \quad (2)$$

$$\text{EPS} = (\text{Net Income} - \text{Preferred Dividends}) / \text{End of period Shares Outstanding} \quad (3)$$

Price to sales ratio (P/S ratio) is a method of valuing a company by the ratio of its current stock Price to its sales revenue. The lower the price-to-sales ratio, the greater the investment value of the company's stock. His advantage is relatively stable and reliable, not easy to be maliciously manipulated. He's not going to go negative. It is applicable to companies with negative net profit.

$$P/S = \text{Market value} / \text{sales} \quad (4)$$

Discounted Cash Flow Method (Discounted Cash Flow Method) refers to Discounted the expected Cash Flow of an enterprise into the present value during a specified period in the future. Since the essence of an enterprise's value is its ability to make profits in the future, its value will be recognized by the market only when an enterprise has this ability, so the theoretical circle usually takes discounted cash flow method as the preferred method of enterprise value evaluation

$$\text{Weighted average cost of capital} = \left(\frac{E}{E+D} * Re \right) + \left(\frac{D}{D+E} * Rd * (1 - Tc) \right) \quad (5)$$

4.2 Discounted cash flow model

Discounted cash flows model can be used to value Carrefour Group. Compared with discounted dividend model, DCF can be used for the company which does not pay dividends or the company which pays dividends but the path of dividends paid differ from the company's capacity growth. Several terms are important to the DCF model: Cash flows, discounted factor, and assumption for

growth rate.

The Weighted Average Cost of Capital (WACC) is the average cost of capital from all financing sources. To gain WACC, some assumptions have been made: tax rate – is assumed to be stale at 28.41% and unchanged from 2021; cost of debt – is assumed to be unchanged and current data is calculated from interest expense dividend by current total debt value; cost of equity – is assumed to be unchanged and is measured by Capital Asset Pricing Model (CAPM) model. From it, the yearly rate of 10 years Treasury Bonds of the France Government is used as the risk-free rate. Market risk-return and Carrefour beta are obtained by Bloomberg's latest value. Finally, WACC is estimated as 4% and would be used in the DCF model as a discounted rate

Table 2. The key factors of calculating WACC[11][12][13]

Tax rate	Kd	Kd*(1-T)	Ke
28.4%	2.35%	1.68%	7.21%
Risk free rate	Rm	Risk premium	Beta
0.72%	11.48%	10.76%	0.603
Market value of Debt	Market value of Equity	WACC	
55.90%	44.10%	4%	

4.2.1 Future cash flows

Starting with EBITDA shown in the below table, Carrefour's free cash flow can be measured as the table below. The data is obtained from Carrefour financial publications.

Table 3. Free cash flow of Carrefour from 2019-2021[13]

Item	2019	2020	2021
EBITDA	4417	4465	4550
Income Tax	-499	-477	-439
Financial result	-17	-50	-1
Cash impact of restructuring items and others	-614	-475	-299
Gross cash flow	3286	3462	3811
Growth rate		5.36%	10.08%
Change in working capital requirement	-149	-14	-136
Discontinued operations	109	-54	-15
Operating cash flow	3247	3395	3661

Growth rate		4.56%	7.84%
Capital expenditure	-1725	-1241	-1626
Change in net payables to fixed asset suppliers	99	-75	277
Net asset disposals(Business-related)	98	145	124
Discounted operations	-33	0	
Free cash flow	1686	2223	2435
Growth rate		31.85%	9.54%
Operating leases payment	-42	-37	
Operating leases payment	-927	-959	-1035
Operating leases payment	-178		
Cost of debt	-214	-171	-172
Net Free cash flow	324	1056	1228
Growth rate		225.93%	16.29%
Exceptional items and discontinued operations	-543	-538	-286
Free cash flow from continuing operations	2229	2761	2721
Growth rate		23.87%	-1.45%
Exceptional items and discontinued operations	-721	-538	-286
Net Free cash flow from continuing operations	1045	1594	1514
Growth rate		52.54%	-5.02%

Thus, for forecasting future cash flows, net free cash flow from continuing operations excluding exceptional items in 2021 at the amount of EUR1514M will be used in the DCF model as the benchmark.

4.2.2 Growth rate

The growth of the food retail industry is highly

correlated with the macroeconomy. Furthermore, the current growth of Carrefour's revenue and cash flow fluctuates. With regards GDP growth rate in France (1.83% in 2019, -7.85% in 2020, 0.7% in 2021) (The World Bank, 2022), growth rate is assumed at 0.7% for short-term and 0.2% perpetual.

Table 4. Expectation of Cash flow and calculation of enterprise of Carrefour[13]

Discounted Cash Flows Models							
2022-2025 Growth rate	Perpetual growth rate						
0.7%	0.2%	2021	2022E	2023E	2024E	2025E	Terminal
Valuation Timing		0	1	2	3	4	5
Future Cash flows		1514	1525	1535	1546	1557	39796
Discounted factor		1	0.960431	0.922428113	0.885928751	0.850873624	0.817205586
Discounted Cash Flows		1514	1464	1416	1370	1325	35521
Enterprise Value		38096					

EUR38,096M enterprise value is resulted from DCF, higher than current value EUR27,328M. This may show that currently Carrefour is underestimated

4.3 Relative valuation model

The comparable analysis could be comparable companies for historical data or forecasted ratios of the company. Carrefour's competitors: Walmart, Tesco, and

Costco are chosen as the comparable. PE ratio, PS ratio, and EV/EBITDA are used as multiples to measure Carrefour. Shown below, using different comparable and multiples, the enterprise value would be measured differently. The under or over-estimation could result from accounting data. For PE ratio, it would be useless if the earning of the company is negative, and due to cyclical effects, most recent earnings (2021's earnings used in the calculation) may not accurately reflect long-term earnings capability. PS ratio is more suitable for valuing Carrefour since its performance relies on sales and its sales trend is relatively stable. Enterprise value measures the whole company rather than only equity, and EBITDA is usually positive even when EPS is not. Using competitors as comparable companies result in a discrepancy of the estimated value. The difference in sizes, business strategies, niche target markets could explain that discrepancy. According to the following calculations, Carrefour is significantly undervalued

Table 5. Competitor's Multiple [12]

Competitors	P/E	EV/EBITDA	PS
Walmart	20.24	13.43	0.67
Tesco	13.64	8.51	0.47
Costco	41.49	25.3	1.13
Target	16.98	9.72	1.05
Estimated	23.09	14.24	0.83

Table 6. Carrefour's Multiples [12]

Carrefour's data	historical	P/E	EV/EBITDA	PS
2017		54.9		
2018		-19.8		
2019		851.9	7.64	0.14
2020		21	5.47	0.15
2021		13.6	5.48	0.18
Estimated		184.32	6.20	0.1854

Since Carrefour's net income is unstable and even is negative, so P/E method is not suitable for valuation. As for EV/EBITDA, since Carrefour, rather than in the manufacturing industry, is in the retail industry, the P/S ratio is more suitable for Carrefour, possessing very stable sales every year with gradual growth.

5. CONCLUSION

This paper studied the development of Carrefour's market, Carrefour's financial situation, and studied the comparison between Carrefour's real value and its market value. The key assumptions of the DCF model are cash flow trend, growth rate, and discount factor. For a relative valuation model, it is important to select comparable companies or price-earnings ratios. Therefore, Carrefour will be valued differently by different valuation methods. But fortunately according to the method used above, Carrefour is undervalued, which means that the current enterprise value of Carrefour (24.17Billion) is lower than its true value. Being undervalued also means that the value of Carrefour's shares will rise in the coming years and that institutional investors and the general public will invest more in Carrefour. Besides, in the era of trend shift to online shopping, Carrefour's strong free cash flow would help make great achievement in digital transformation and maximize its value by unique advantage of the dramatically huge network of stores worldwide.

REFERENCES

- [1] C. Enrico, D. Marc, Research and managerial issues on global retail competition: Carrefour/Wal-Mart, *International Journal of Retail & Distribution Management*, vol.30, no.2, 2002, pp.103-111. DOI:10.1108/09590550210418128
- [2] B. Céline, D. Cédric, Making profits by leading retailers in the digital transition: A comparative analysis of Carrefour, Amazon and Wal-Mart (1996-2019), Working paper,
- [3] L. Berry, Leonard, N. Bolton, Ruth, H. Bridges, Cheryl, M. Jeffrey, Opportunities for Innovation in the Delivery of Interactive Retail Services, *Journal of Interactive Marketing*, vol.24, no.2, 2010, pp.155-167, DOI:10.1016/j.intmar.2010.02.001
- [4] C. Yuqi, J. M. Hu, Analysis on the Mode of Multinational Retail Enterprises Entering Chinese Market. *Modern Economy*, vol 11, 2020, pp. 17-27, DOI:10.4236/me.2020.111003
- [5] Z. Coetzee, H. Bezuidenhout, G. Mhonyera, Effective strategies followed by multinational enterprises expanding into Africa, *Journal of Economic and Financial Sciences*, vol.13, no.1, 2020, pp. 1-12, DOI: 10.4102/jef.v13i1.511.
- [6] C. Burbach, Walmart Strategic Analysis, 2021.
- [7] E. Pantano, "Innovation drivers in retail industry.", *International Journal of Information*

- Management, vol.34, no.3, pp.344-350, DOI:10.1016/j.ijinfomgt.2014.03.002
- [8] K. Patrick, Digital Transformation in Retail: Can Customer Value Services enhance the Experience?, 31st Bled eConference: 31st Bled eConference: Digital Transformation - From Connecting Things to Transforming Our Lives, June 18 - 21, 2017, Bled, Slovenia, DOI:10.18690/978-961-286-170-4.19
- [9] M. L. Chuang, J.D. James, W. G. Michele, W. Kan, Walmart and Carrefour experiences in China: resolving the structural paradox, *International journal*, vol.18, no.4, 2011, pp.443-463, DOI:10.1108/13527601111179519
- [10] S. Florian, The validity of company valuation using Discounted Cash Flow methods, arXiv preprint arXiv:1003.4881, 2021
- [11] Carrefour(CARR) Balance Sheet. (n.d.). Retrieved March 12, 2022, from <https://www.investing.com/equities/carrefour-balance-sheet>
- [12] Carrefour(CARR) Statistics. (n.d.). Retrieved March 12, 2022, from <https://finance.yahoo.com/quote/CA.PA/key-statistics?p=CA.PA>
- [13] Carrefour company. (n.d.). Carrefour Annual publications. Retrieved March 12, 2022, from <https://www.carrefour.com/en/finance/financial-publications>