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RESEARCH ARTICLE

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THE CHOICE OF BEAUTY, HEALTH AND WELL-BEING FRANCHISES: A RISK-RETURN ASSESSMENT

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ABSTRACT

There are numerous franchises available on market today, so the research question of this work is: how could a potential franchisee choose his ideal franchise? Based on this question, the general objective is to give conditions of choice for a potential franchisee to make his decision. For this, a quantitative and descriptive methodology was applied, with usage of Multi-Attribute Utility Theory (MAUT) and the Monte Carlo Method in the results of an interview which was applied to 3 potential franchisees from the Beauty, Health and Wellness segments. The research is also documentary, as it was necessary to collect some financial information from the company's investor reports. For the interviews, a grade from 0 to 10 was assigned to qualitative indicators, thus, it was possible to measure these qualitative biases of the would-be franchisees and, even so, financial information had a representative weight in both methodologies. Both MAUT and Monte Carlo pointed to the same franchise as the best indication in this study, thus, they are complementary methodologies that have different approaches and views on the problem.

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INTRODUCTION

The Brazilian Franchising Association (ABF) has numerous franchise networks, which are divided into 11 sectors: (i) Food, (ii) Home and construction, (iii) Communication, IT and electronics, (iv) Entertainment and leisure, (v) Hospitality and tourism, (vi) Cleaning and maintenance, (vii) Fashion, (viii) Health, beauty and well-being, (ix) Automotive services, (x) Services and other businesses and (xi) Educational services. According to ABF (2020), the Health, Beauty and Wellness segments were the least impacted by the economic slowdown due to the restrictions established during COVID-19 pandemic. Choosing a franchise involves deciding which segment to operate, in addition to factors related to location, investment, profitability margin and risk of failure of the franchise stores. Faced with the diversity of factors presented, this research arises from the question: how can a potential franchisee identify a franchise suitable for his/her profile?. The objective of this work is to analyze the feasibility of applying performance projections in the decision-making process of choosing to acquire a franchise.

The study was limited to franchises in the Health, Beauty and Wellness segment, due to its revenue and stability in 2020. It is worth noting that a successful franchise is characterized as the one that presents the highest profitability, given a degree of risk, in addition to other more subjective factors, such as management and relationship between franchisor and franchisee (SILVEIRA, 2018).

RESEARCH ELABORATIONS

Franchises in Health, Beauty and Wellness Segment: According to reports released by ABF, the Health, Beauty and Wellness sector grew by 7.2% in 2019 compared to 2018, which was the average between these 3 segments (ABF, 2019). When comparing the crisis scenario, 2nd quarter of 2020 versus 2nd quarter of 2019, it is observed that all sectors reduced their revenue, however, the Health, Beauty and Wellness sector remained stable with a small reduction of 3.1%, while the average for the other segments recorded a drop in revenue of 35.7% (ABF, 2020). It is worth noting that the Health, Beauty and Wellness segment includes economic activity related to

drugstores and other essential services, which grew in the period (ABF, 2020), which may justify the better performance of the segment.

Nielsen (2020), a global information company in market research, mentions that during the pandemic some consumption behaviors were observed. These were the six steps observed by the institution, related to consumption in perspective of the chronological advance of the pandemic: 1) Proactive purchases for health; 2) Reactive health management; 3) Storeroom filling; 4) Preparation for life in social distancing; 5) Restricted life and; 6) Living a new normality. According to Nielsen's approach (2020), consumption behavior after the beginning of the pandemic was distinct and closely related to the behavior of society itself. This happened due to a change in the economics and how people were affected by these changes or prevented them. Consumption business began to focus on the sectors of health care and well-being, basic supplies and adaptation to the comfort of a more restricted life. It was necessary to readjust to a new social context with new priorities. It can be seen that among the points mentioned by Nielsen (2020), several factors have contributed to the growth and stability of the Health, Beauty and Wellness sector.

Multi-Attribute Utility Theory (MAUT): The Multiattribute Utility Theory (MAUT) makes it possible to subjectively evaluate many criteria, both quantitative and qualitative, and prioritize one criteria over another in order to make a decision, especially those involving risk management (BUKHSH *et al.*, 2019). According to Pressi (2017), during MAUT application, the following steps must be followed: a) Identification of objectives, decision goals and the scope of the problem; b) Definition of the criteria that will be used; c) Quantification of performance in relation to each criterion, using a scale from 0 to 100; d) The quantification of performance should be normalized so that they are in a range of 0 to 1; e) Evaluation of the criteria and assigning weights to them; f) Use of the Multiattribute Utility function in equation (1) to determine the final assessment and; g) Analysis of the sensitivity of the assignment of weights.

The MAUT method is defined by the weighted sum of simple utility functions:

$$U_j = \sum P_k \cdot NN_{kj} \quad (\text{Eq. 1})$$

Where:

- U_j = alternative's overall value or score j ;
- P_k = criterion weight k ;
- NN_{kj} = performance of alternative j in relation to the criterion k .

Monte Carlo Method: Monte Carlo methodology is widely used in finance, and it is an artificial sampling technique used to numerically operate complex systems with random components. Thus, it provides approximate results for probability distributions of parameters that are being studied (COSTA & AZEVEDO, 1996). According to Nagy and Savona (2019), to apply the Monte Carlo simulation, one must first identify the variables that will be randomly generated. Thus, the randomness of an input variable can be defined, understanding its probability distribution from the history of this variable. Also, variables that are totally independent of these input variables should be mapped, and those that are influenced by these input variables. From this mapping, one must understand the proportionality relationship between these independent and dependent variables, at each random generation of values of previously defined variables, such as input variables (ZUCCOLOTTO & COLODETI FILHO, 2007). After defining the variables and their relationship in the modeling, the random generation of input variables must be started, respecting the interval adopted for each variable. Generally, these simulations are performed using computers and software that can easily do these simulations. Thus, for each input variable, we have the result of the output variables (NOVAK *et al.*, 2018). Monte Carlo method was first applied in finance on Hertz (1964), who suggested its use in project analysis as a means of measuring the risks inherent to each variable (NUNES, ARONNE & PINHO, 2020).

Even today, the importance of using Monte Carlo in company valuation is highlighted, since the generation of random scenarios and their probabilities of occurrence eliminate the risk attributed only to the appraiser. In addition, the authors believe that it is the most complete method of measuring companies' cash flow risks (NUNES *et al.*, 2020).

METHODS

The approach of this research is quantitative, as the results are based on quantitative methods such as MAUT and the Monte Carlo Method. The research is descriptive, as the purpose was to collect, describe and evaluate three franchises in the Health, Beauty and Wellness segment and analyze what would be the best decision to make for the choice of franchise to be chosen by an entrepreneur. The franchises chosen for comparison are located in the city of São Caetano do Sul, thus eliminating the location variable. Franchise 1 is a relatively new franchise in Brazil, founded in 2012, but with considerable reach among Brazilian companies. Franchise 2 presents the best expansion, being the largest franchise network in Brazil and the largest in the world in perfumery and cosmetics, according to (ABF, 2021). Franchise number 3, also well known in Brazil, has a more exclusive process for opening new franchises, since it is necessary to be a consultant for the franchise products for at least one year. An interview of 31 questions, presented in Table 1, and proposed/adapted from Silveira (2019) was applied. The 31 questions which were sent to respondents are considered relevant when choosing a franchise. The potential franchisees interviewed had to evaluate each of these factors with a score from 0 to 10, with 0 being of little importance and 10 being extremely important in the decision of choosing a franchise. The interviews were applied between December 2020 and February 2021. For the last 4 factors of Financial Disclosure evaluated in the choice of franchise (Table 1), information from the companies' releases on the expected financial results of franchises was used. Thus, among the procedures, there are also data obtained indirectly, through opinions of companies themselves, in this way, the research is also classified as documentary. The questions were classified into 6 dimensions: (i) franchisor support, (ii) brand, (iii) products, (iv) trust in the franchisor, (v) other franchisor characteristics and (vi) network characteristics. In addition, it was necessary to seek financial information on the franchises in order to analyze them. After collecting the information, the MAUT was applied. For this, it was first necessary to normalize the scores of each dimension with Equation 2:

$$NN_{kj} = \frac{\sum (P_i \cdot N_{ij})}{NM_k} \quad (\text{Eq. 2})$$

Where:

- NN_{kj} = normalized score calculated for the k dimension of the franchise j ;
- P_i = factor weight i ;
- N_{ij} = factor i score given by franchise j ;
- NM_k = maximum score obtained among the deductibles for the sum of $P_i \cdot N_{ij}$ within the dimension k ;

After the normalized scores, it was possible to apply the MAUT with Equation 1. As a premise, a weight of 0.500 was assigned to the Financial Disclosure dimension, the remaining weight (0.500) was distributed among the other dimensions according to the mandatory citations that were determined for each dimension. Subsequently, to validate and confirm the ranking obtained by MAUT, the Monte Carlo method was applied. The information obtained from Table 1 was also used for the Monte Carlo method. For each factor in Table 1, it was determined whether they would influence the risk and/or profitability of franchises. After, risk and standardized profitability can be calculated for those factors that were determined to have an influence on risk and/or profitability, following Equations 3 and 4. In the case of factors that would not have an influence on risk and/or profitability, $Ripijm$ and/or $Repijm$ was assigned the value of 1.

$$Rip_{ijm} = \left(\frac{N_{ijm}}{MN} \right) Imp_i \quad (\text{Eq. 3})$$

$$Rep_{ijm} = \left(\frac{N_{ijm}}{MN} \right) Imp_i \quad (\text{Eq. 4})$$

Where:

- Rip_{ijm} = standardized risk of factor i of franchise j in simulation m ;
- Rep_{ijm} = standardized profitability of factor i of franchise j in simulation m ;
- N_{ijm} = grade assigned to factor i of franchise j in simulation m ;
- MN = arithmetic mean of the scores given in the interviews for factor i ;
- Imp_i = value of importance assigned to factor i .

Based on the risks and standardized returns, the adjustment factors for profitability and risk were obtained with equations 5 and 6:

$$Fari_{jm} = \frac{1}{\prod Rip_{ijm}} \quad (\text{Eq. 5})$$

$$Fare_{jm} = \prod Rep_{ijm} \quad (\text{Eq. 6})$$

Where:

- $Fari_{jm}$ = Franchise risk adjustment factor j in simulation m .
- $Fare_{jm}$ = Adjustment factor to franchise profitability j in simulation m .

With the profitability adjustment factor, it is possible to calculate the adjusted average rate of return for franchises with Equation:

$$\%Rema_{jm} = \%Rem_j \cdot Fare_{jm} \quad (\text{Eq. 7})$$

Where:

- $\%Rema_{jm}$ = adjusted average rate of return of franchise j in simulation m ;
- $\%Rem_j$ = average franchise rate of return j .

Adjusted profitability rates were also calculated for a pessimistic scenario and an optimistic scenario. For the pessimistic scenario, the 5% percentile was considered and for the optimistic scenario, the 95% percentile was considered. To adjust these rates, the risk adjustment factor was considered instead of the profitability adjustment factor used in the calculation of the adjusted average rate of return, as shown in Equations 8 and 9:

$$\%Rea5\%_{jm} = \%Rema_{jm} - (\%Rem_j - \%Reacp_j) \cdot Fari_{jm} \quad (\text{Eq. 8})$$

$$\%Rea95\%_{jm} = \%Rema_{jm} + (\%Reco_j - \%Rem_j) \cdot Fari_{jm} \quad (\text{Eq. 9})$$

Where:

- $\%Rea5\%_{jm}$ = adjusted rate of return of franchise j in simulation m in the pessimistic scenario - percentile 5%;
- $\%Rea95\%_{jm}$ = adjusted rate of return of franchise j in simulation m in the optimistic scenario - percentile 95%;
- $\%Reacp_j$ = franchise rate of return j in the pessimistic scenario;
- $\%Reaco_j$ = franchise rate of return j in the optimistic scenario.

With the value of the average rate of return, this value can be multiplied by the average monthly revenue, in order to obtain the average monthly return in absolute value.

Dividing the initial investment by the average monthly return, the pay back time in months was obtained. Thus, it was possible to calculate

the net income in 5 years and 10 years by equations 10 and 11, disregarding the interest rate effect:

$$LL5_{jm} = (60 - Pbt_{jm}) \cdot Rema_{jm} \quad (\text{Eq. 10})$$

$$LL10_{jm} = (120 - Pbt_{jm}) \cdot Rema_{jm} \quad (\text{Eq. 11})$$

Where:

- $LL5_{jm}$ = accumulated net profit of franchise j for 5 years in simulation m ;
- $LL10_{jm}$ = accumulated net profit of franchise j for 10 years in simulation m ;
- Pbt_{jm} = pay back time of franchise j in simulation m .

The procedure listed by the Monte Carlo step was repeated 1,000 times for each of the analyzed franchises. Thus, it was possible to determine the number of times that each franchise would present the highest accumulated profit in 10 years, in relation to the other franchises. For the simulations, the scores were randomly generated in a uniform way. After applying the two methods (MAUT and Monte Carlo Method), it was possible to compare the two results obtained.

RESULTS

This work was based on and adapted from the work by Silveira (2018), "Choice of Franchises Considering Multicriteria Decision and Profitability-Risk Assessment". For the present work, 3 franchises in the Health, Beauty and Wellness segment were chosen and an interview was carried out with potential franchisees of these 3 franchises. The results of the interviews and the result of the Financial Disclosure are shown in Table 2. Despite being from the same segment, the results of the Financial Disclosure show that the franchises are heterogeneous, as they have different sizes and approaches. Through the data, it is possible to observe that the grades in general were relatively high, probably due to the experience lived in the activity. It is worth noting that ABF (2020), reports the good performance of the results of the Health, Beauty and Wellness segment, has shown good results and, even during the period of the COVID-19 pandemic, proved to be very stable. From these results, MAUT was applied as described in the methodology topic. The MAUT results are shown in Table 3:

According to the MAUT method, the greater the utility presented by each franchise, the better it is evaluated in terms of business profitability. From this, it was possible to classify the franchises in the ranking presented in Table 3. Franchise 3 presented the highest utility, therefore, it was classified as the best franchise choice by the MAUT method. This is due to the 4 highest normalized dimensions scores: D1 – Franchisor Support, D2 – Brand, D4 – Franchisor Confidence and D5 – Other Franchisor Features. In addition, it had a high score in D7 – Financial Disclosure, which has a greater weight than the other dimensions. Franchise 2 presented a utility very close to Franchise 3, with a difference of 0.003 to reach the utility of Franchise 3.

This happened, since Franchise 2 presented the maximum normalized score of 1.000 in dimension D7 – Financial Disclosure, which has the highest weight, in addition to being highlighted in dimensions D3 – Products and D6 – Network Features. Franchise 1 presented the lowest of the utilities, with the maximum normalized score only in dimension D3 - Products, whose weight was equivalent to the other dimensions, and lower only in relation to dimension D7. After applying MAUT, we proceeded to the Monte Carlo Method step, according to the methodology presented in the previous section of this work. The economic and financial results are shown in Table 4: Due to the heterogeneity between the franchises, the normalized scores become quite variable, which made Franchise 1 show a negative profitability in the pessimistic scenario.

Table 1. Summary of factors that guide the choice of franchises

| Dimensions | Factor | Factors/Answers of potential franchisees | Importance | Citation |
|--------------------------------|--------|---|------------|----------|
| D1 – Franchisor Support | F1 | Good operation services offered by the franchisor | 0,94 | 66,67% |
| | F2 | Good marketing services in the pre- and post-franchise opening phases | 0,87 | 33,33% |
| | F3 | Good supply chain management | 0,93 | 72,22% |
| | F4 | Initial and later training | 0,91 | 66,67% |
| | F5 | Adequate control level | 0,80 | 38,89% |
| | F6 | Faithful compliance with the contract and other established rules | 0,93 | 88,89% |
| D2- Brand | F7 | Reduced need for own marketing actions | 0,83 | 11,11% |
| | F8 | Established customer base | 0,96 | 38,89% |
| | F9 | Industry experience | 0,98 | 61,11% |
| | F10 | Franchise maturity | 0,93 | 38,89% |
| | F11 | Identification with the franchisor brand | 0,93 | 44,44% |
| D3 - Products | F12 | Good quality | 0,93 | 83,33% |
| | F13 | Proper for market | 0,94 | 77,78% |
| | F14 | Innovative | 0,70 | 16,67% |
| | F15 | Belong to a long portfolio | 0,76 | 22,22% |
| | F16 | Prior knowledge about the product | 0,87 | 66,67% |
| D4 Franchisor Confidence | F17 | Confirmation of past information | 0,96 | 94,44% |
| | F18 | Good conflict management | 0,72 | 22,22% |
| | F19 | Good relationship between potential franchisee and franchisor | 0,94 | 61,11% |
| | F20 | Trust already established with network franchisees | 0,74 | 38,89% |
| D5 – Other Franchisor Features | F21 | Franchisor resilience | 0,72 | 38,89% |
| | F22 | Selection policy that enhances the franchisee's profile | 0,74 | 27,78% |
| | F23 | Good relational benefits | 0,74 | 22,22% |
| | F24 | Fair related costs | 0,80 | 22,22% |
| | F25 | Wide <i>know how</i> sharing | 0,93 | 77,78% |
| D6 – Network Features | F26 | Passive Ownership Restrictions (Desirable) - Control? | 0,72 | 27,78% |
| | F27 | Prohibition of area development agreements (desirable) | 0,91 | 50,00% |
| | F28 | Sub-franchising permission (desirable) | 0,61 | 22,22% |
| | F29 | Optimal ratio of own business x franchised units | 0,56 | 11,11% |
| | F30 | Territory of good location where the franchise is located | 1,00 | 83,33% |
| | F31 | Required number of employees | 0,94 | 66,67% |
| D7 Financial Disclosure | F32 | Starting investment | 0,91 | 27,78% |
| | F33 | Risk | 0,94 | 50,00% |
| | F34 | Profitability | 1,00 | 66,67% |
| | F35 | <i>Pay back time (months)</i> | 0,98 | 33,33% |

Source: Silveira (2019)

Table 2. Interview Results and Financial Disclosure

| Dimensions | Factor | Factors/Answers of potential franchisees | Relevance | Citations | Fran 1 | Fran 2 | Fran 3 |
|--------------------------------|--------|---|-----------|-----------|-------------|-------------|-------------|
| D1 – Franchisor Support | F1 | Good operation services offered by the franchisor | 0,94 | 66,67% | 7 | 8 | 10 |
| | F2 | Good marketing services in the pre- and post-franchise opening phases | 0,87 | 33,33% | 10 | 10 | 8 |
| | F3 | Good supply chain management | 0,93 | 72,22% | 6,5 | 10 | 10 |
| | F4 | Initial and later training | 0,91 | 66,67% | 6,5 | 10 | 10 |
| | F5 | Adequate control level | 0,80 | 38,89% | 8,5 | 8 | 9 |
| | F6 | Faithful compliance with the contract and other established rules | 0,93 | 88,89% | 7,5 | 7 | 10 |
| D2- Brand | F7 | Reduced need for own marketing actions | 0,83 | 11,11% | 10 | 7 | 9 |
| | F8 | Established customer base | 0,96 | 38,89% | 10 | 9 | 9 |
| | F9 | Industry experience | 0,98 | 61,11% | 10 | 10 | 10 |
| | F10 | Franchise maturity | 0,93 | 38,89% | 6,5 | 8 | 10 |
| | F11 | Identification with the franchisor brand | 0,93 | 44,44% | 10 | 10 | 10 |
| D3 – Products | F12 | Good quality | 0,93 | 83,33% | 10 | 10 | 10 |
| | F13 | Proper for market | 0,94 | 77,78% | 10 | 10 | 9 |
| | F14 | Innovative | 0,70 | 16,67% | 10 | 10 | 7 |
| | F15 | Belong to a long portfolio | 0,76 | 22,22% | 10 | 10 | 8 |
| | F16 | Prior knowledge about the product | 0,87 | 66,67% | 10 | 10 | 10 |
| D4 Franchisor Confidence | F17 | Confirmation of past information | 0,96 | 94,44% | 7,5 | 10 | 8 |
| | F18 | Good conflict management | 0,72 | 22,22% | 8,5 | 9 | 10 |
| | F19 | Good relationship between potential franchisee and franchisor | 0,94 | 61,11% | 6,5 | 10 | 9 |
| | F20 | Trust already established with network franchisees | 0,74 | 38,89% | 8,5 | 6 | 10 |
| D5 – Other Franchisor Features | F21 | Franchisor resilience | 0,72 | 38,89% | 8,5 | 7 | 9 |
| | F22 | Selection policy that enhances the franchisee's profile | 0,74 | 27,78% | 7,5 | 8 | 9 |
| | F23 | Good relational benefits | 0,74 | 22,22% | 5,5 | 8 | 8 |
| | F24 | Fair related costs | 0,80 | 22,22% | 5,5 | 6 | 10 |
| | F25 | Wide <i>know how</i> sharing | 0,93 | 77,78% | 10 | 7 | 10 |
| D6 – Network Features | F26 | Passive Ownership Restrictions (Desirable) - Control? | 0,72 | 27,78% | 9 | 7 | 10 |
| | F27 | Prohibition of area development agreements (desirable) | 0,91 | 50,00% | 5 | 7 | 5 |
| | F28 | Sub-franchising permission (desirable) | 0,61 | 22,22% | 5 | 7 | 2 |
| | F29 | Optimal ratio of own business x franchised units | 0,56 | 11,11% | 10 | 10 | 6 |
| | F30 | Territory of good location where the franchise is located | 1,00 | 83,33% | 10 | 9 | 10 |
| | F31 | Required number of employees | 0,94 | 66,67% | 5 | 6 | 9 |
| D7 Financial Disclosure | F32 | Starting investment | 0,91 | 27,78% | R\$ 109.000 | R\$ 510.000 | R\$ 487.000 |
| | F33 | Risk | 0,94 | 50,00% | R\$ 9.000 | R\$ 10.500 | R\$ 12.450 |
| | F34 | Profitability | 1,00 | 66,67% | R\$ 6.000 | R\$ 10.000 | R\$ 12.450 |
| | F35 | <i>Pay back time (months)</i> | 0,98 | 33,33% | 18 | 51 | 39 |

Source: Research data.

Table 3. Results presented by the MAUT method

| | D1 | D2 | D3 | D4 | D5 | D6 | D7 | Peso | Utility | Ranking |
|-------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|
| Franchise 1 | 0,800 | 0,967 | 1,000 | 0,837 | 0,810 | 0,957 | 0,235 | 0,096 | 0,564 | 3º |
| Franchise 2 | 0,927 | 0,921 | 1,000 | 0,973 | 0,775 | 1,000 | 1,000 | 0,404 | 0,970 | 2º |
| Franchise 3 | 1,000 | 1,000 | 0,891 | 1,000 | 1,000 | 0,969 | 0,966 | | 0,973 | 1º |

Source: Research data.

Table 4. Economic-financial results of the 3 analyzed franchises.

| | Franchise 1 | Franchise 2 | Franchise 3 |
|---|-------------|-------------|---------------|
| Profitability adjust factor (Fare) | 0,10 | 0,53 | 1,18 |
| Risk adjust factor (Fari) | 3,31 | 1,37 | 0,83 |
| Adjusted profitability rate percentile 5 (%Rea5%) | -0,61% | 4,64% | 17,06% |
| Adjusted average profitability rate (%Rema) | 1,04% | 5,33% | 17,69% |
| Adjusted profitability rate percentile 95 (%Rea95%) | 32,49% | 18,30% | 29,56% |
| Adjusted profitability percentile 5 | -R\$ 368 | R\$ 4.642 | R\$ 14.162 |
| Adjusted average profitability | R\$ 625 | R\$ 5.325 | R\$ 14.680 |
| Adjusted profitability percentile 95 | R\$ 19.492 | R\$ 18.303 | R\$ 24.531 |
| Pay back time (Pbt) - months | 18 | 51 | 39 |
| 5 years accumulated net profit (LL5) | R\$ 26.144 | R\$ 47.925 | R\$ 306.576 |
| 10 years accumulated net profit (LL10) | R\$ 63.641 | R\$ 367.429 | R\$ 1.187.392 |

Source: Research data.

Table 5. Weibull distribution parameters

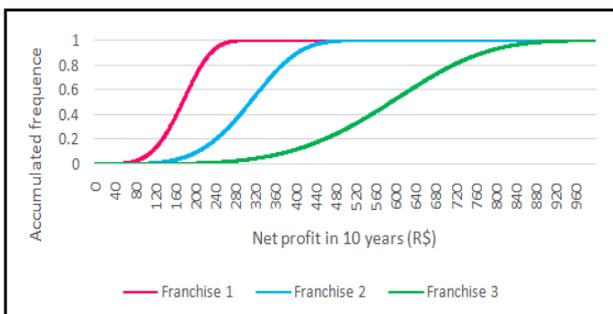
| Weibull Distribution Parameters | Franchise 1 | Franchise 2 | Franchise 3 |
|---------------------------------|-------------|-------------|-------------|
| Location (L) | 56.000 | 104.000 | 194.000 |
| Shape (α) | 4,29 | 4,50 | 4,41 |
| Scale (β) | 190.342 | 335.866 | 641.650 |
| Percentile 5 (R\$) | 96.000 | 174.000 | 328.000 |
| Percentile 95 (R\$) | 246.000 | 429.000 | 823.000 |

Source: Research data.

Once again, Franchise 3 presented better results, with an accumulated net profit in 10 years of approximately R\$ 1.2 million, followed by Franchise 2 and finally Franchise 1. This is due to the better adjustment factor to profitability presented by Franchise 3, influenced by the scores attributed to the factors considered for the calculation of the Fare. In addition, Franchise 3 also presented the lowest risk adjustment factor, which shows that in addition to presenting the best profitability, it also presents lower risk compared to other franchises. The Monte Carlo Method was applied considering that the scores assigned to each of the factors were not a deterministic value. Thus, the occurrence of the uniformly distributed scores was simulated a thousand times, to find the highest net profits, in the projection of a period of 10 years for the simulations. The accumulated Weibull equation, represented by Equation 12, was applied to obtain the frequencies accumulated by the net income in 10 years.

$$F(x) = 1 - e^{-\left(\frac{x-L}{\beta}\right)^\alpha} \tag{Eq. 12}$$

The results for the 5th and 95th percentiles are shown in Table 5, together with the Weibull parameters that were used for each franchise. Next, the values found in Table 5 are shown in Figure 1.



Source: Research data. Note: the values of the abscissa axis must be considered with the addition of three zeros, that is, the value 32 must be interpreted as 32,000

Figure 1. Distributions Weibull accumulates

Figure 1 represents the net income accumulated in 10 years according to the frequency presented by the thousand simulations performed. It can be seen that Franchise 3 presents itself better in the 5th and 95th percentiles, indicating its best performance in relation to the other franchises. Thus, by the Monte Carlo Method, Franchise 3 would also be chosen. In isolation, it is possible to observe the distribution of net income for the 10-year projection, for each franchise analyzed. Individual performance can be seen in Figures 2, 3 and 4.

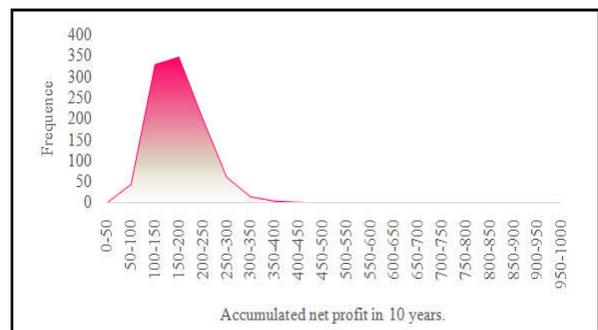


Figure 2. Franchise 1 net profit distribution projection

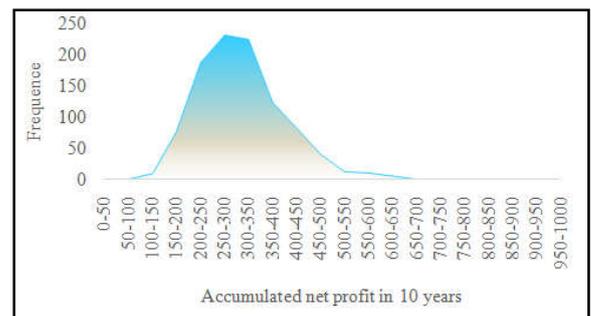


Figure 3: Franchise 2 net income distribution projection

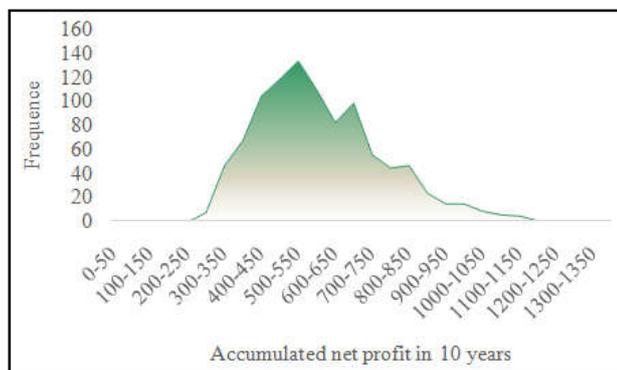
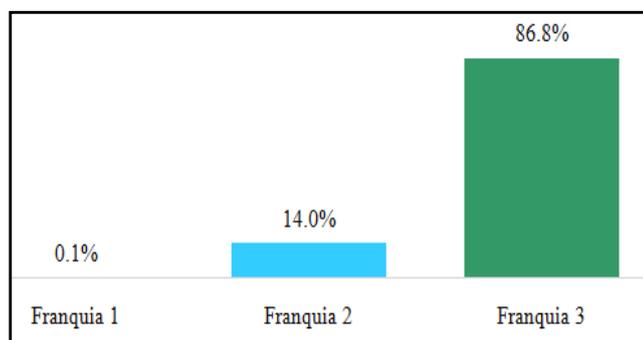


Figure 4. Franchise 3 net profit distribution projection

From Figures 2, 3 and 4, it was possible to determine the percentage of times that each franchise had the highest net profit in 10 years. This can be summarized by Figure 5.



Source: Research data.

Figure 6. Frequency the franchise has the highest net income (in 10 years)

Franchise 1 presented a value higher in only 0.01% of the simulations than the other franchises, that is, in only 1 of the 1000 simulations. Franchise 2, on the other hand, presented 14% of net profits in 10 years higher, while Franchise 3 presented in 86.8% of the simulations. Thus, the two methods, both MAUT and Monte Carlo, showed the following sequence for choosing the franchise with the best return, according to a return-risk assessment: Franchise 3 > Franchise 2 > Franchise 1. The franchises were evaluated through a multi-criteria decision, in which the weights were pre-defined by the interviews carried out using as a premise a greater weight for the Financial Disclosure. The analysis dynamics used in this study was adherent to the one used by Silveira (2019). In addition, it was possible to consider the variability of the grades applied by the would-be franchisees in relation to the franchise with the Monte Carlo Method, establishing the impact of different grades assigned. Therefore, from the perspective of the two methods, Franchise 3 presents the best option of choice, among the analyzed options, for those who want to implement a franchise in the Health, Beauty and Wellness sector.

CONCLUSION

The development of this study made it possible to show that the application of performance projection in the decision process of choosing to purchase a franchise, is positioned as an appropriate protocol.

The variables involved in the decision process were considered, analyzed and interpreted by two different protocols, the Multiattribute Utility Theory methodology, better known as MAUT and the Monte Carlo Method. The two different protocols adopted indicate the same sequence of performance of the three franchises analyzed, a context that enhances the appropriate decision-making process to choose between different franchise options available. The analysis process was carried out in a specific franchise sector; however, it is possible to infer the suitability of using the same protocol to analyze different companies in any franchise sector. In this sense, the adequacy of the protocol carried out in other franchise sectors is established as a possibility for future studies. The development of studies in other franchising sectors will allow the potential establishment of a consensus on the feasibility of using the combination of the Multiattribute Utility Theory (MAUT) and the Monte Carlo Method as tools for analyzing the decision-making process of franchise performance.

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