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The Impact of Social Media on Restaurant Corporations' Financial Performance

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Abstract: Social media, in the form of online reviews (ORs), has become an essential element for consumers in the restaurant industry, providing reliable and unbiased information based on the dining experiences of other consumers. Social media is not only a crucial phenomenon for the strategy of restaurants, but also for their corporations. However, previous literature has focused on the analysis at the establishment level, rather than at the corporate level, especially when referring to financial performance. The present study tries to verify if social media also affects corporate financial performance. For this, the impact of ORs on advanced measures of financial performance was examined at the corporate level on a sample of 800 restaurants selected from the total population of active restaurants in Europe in 2018. The investigation applied both regression analysis and nonparametric techniques. They demonstrate a positive effect of ORs on financial performance, and a heterogeneous relationship between both variables across the European countries. Restaurants are becoming aware of the implications of this phenomenon since it could provide strategies for sustainable economic development.

Keywords: online restaurant reviews; restaurant corporations; consumer review websites; financial performance; Europe

1. Introduction

Rapid technological change, market competition, and more demanding customers are challenging tourism companies, and forcing them to face this setting by constantly reassessing the effectiveness of their competitive strategies. Successful tourism businesses tend to focus on the key drivers of competitive advantage which lead to long-term economic sustainability [1]. Although literature on strategy presents a wide range of classic rules and universal concepts on how to improve performance, there is a lack of new approaches to identify unexplored determinants of tourism performance regarding social media and its implications on financial performance [2,3].

The new Internet and Web 2.0 technologies, such as forums, wikis, or social networks, are of particular importance in the tourism industry due to the experiential nature of the products offered. Dining experiences, sightseeing, and hotel stays can only be evaluated after consumption; therefore, customers rely on the information provided by other consumers, who have already experienced the product, to set expectations and make a purchase decision, and thereby reduce uncertainty [4–6]. Consumers have access to a large amount of preconsumption information, needing first to distinguish

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which is relevant and reliable. New technologies have turned traditional word-of-mouth (WOM) into electronic word-of-mouth (eWOM), defined as any statement, positive or negative, by former, current, or potential consumers about a product or a company, which is available for a large number of people and institutions through the Internet [7].

Among the various existing instruments, Consumer Review Websites (CRWs) such as TripAdvisor, Booking, or Yelp have recently grown in importance [8–10]. CRWs enable consumers to write online reviews (ORs), which consist of a quantitative (as a score) and/or a qualitative recommendation (as an opinion) on certain aspects of the tourism experience and also on the experience as a whole. Some studies show the usefulness of ORs, while others, focused on firms, demonstrate the positive effects of ORs on different features of tourism management, such as detection of mismanagement [11], purchase intention, and increase in sales [12]. Likewise, ORs are the most reliable approach to the concept of firm online reputation [13–15]. Despite advances in the topic, there is a lack of studies on the relationship between the social media data of a tourism company and advanced measures of business profitability besides sales figures [2,16,17]. Following [18], there are two important gaps in the literature. Firstly, previous studies focused on the analysis at the establishment level rather than at the corporate level, especially when referring to financial performance. CRWs not only constitute an important phenomenon for establishments, but also for companies, because they adapt their products and services according to the ORs in order to obtain additional income, benefits, and cash flows. Therefore, if CRWs affect the income and profits of the establishments, it must also impact corporate financial performance. Secondly, the samples studied have mostly been composed of hotel establishments, disregarding other important subsectors such as the restaurant industry. In this regard, [15] more research on this topic should be demanded, suggesting that future works should determine how companies evaluate their actions and measure their performance in terms of results.

In order to cover the gaps in the literature, this study aims to determine the impact of ORs on the performance of corporations in the restaurant industry. The analysis is carried out on a large sample of European restaurants, made up of 800 active corporations in 2018. The investigation applied both regression analysis and nonparametric techniques to examine the relationship between ORs and advanced measures of financial performance.

The paper is organized as follows: Section 2 reviews the previous literature on the effects of ORs on the financial performance of tourism firms. Section 3 outlines the methodology and the dataset used. Section 4 analyzes the empirical results. Section 5 includes a discussion of the significance of the results focusing on their theoretical and practical implications. Finally, Section 6 presents the main conclusions and future research lines.

2. Literature Review

2.1. Relevance of CRWs on Consumers' Behavior

The rapid and growing development of Web 2.0 has significantly changed the way consumers make their purchase decisions, and therefore, how companies should relate to them. Consumers have access to a large amount of information prior to consumption. Thus, the first task is to distinguish which data is relevant and reliable. Traditionally, noncommercial interpersonal communication such as WOM has been considered by consumers as a source of trustworthy and unbiased information about products, services, and brands [19], and more reliable than advertising [20]. New technologies have turned traditional WOM into eWOM, defined as any statement, positive or negative, by former, current, or potential consumers about a product or a company, which is available for a large number of people and institutions through internet [7]. This eWOM has overcome the advantages of traditional WOM, as it allows information to be transmitted more rapidly, with fewer restrictions, and remain more available (asynchronous nature) for a larger number of users [21–24].

Consumer-Generated Media (CGM) has been revealed as an important segment of Web 2.0 tools. Blogs, social networks, forums, and review sites provide users-consumers with different channels to

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share their views, experiences, and recommendations of purchase and consumption (on all types of goods, services, and brands), and allow such information to be available to other consumers [25–27]. The informational content of eWOM available in the CGM is mainly used to reduce the inherent uncertainty in the purchasing process, gathering information about the different options available and their specific features of consumption, but also to obtain advantages and discounts [4,28,29]. It also can be analyzed from a social viewpoint, since a CGM user is part of a virtual community, and therefore, can also benefit from social rewards such as the satisfaction of selflessly helping other consumers, or the chance of getting some reputation or status within that community [7,13]. The information provided by the CGM is perceived as more reliable because it is based on personal and direct experiences of other consumers or opinion leaders [20,25], it is free of commercial interests [9,30], and anonymity favors less social anxiety and less incentive to be dishonest [11]. For these reasons, CGM has gained strong credibility in the purchase decision-making process [26,31,32].

CRWs stand out among all the CGM sources due to their growth and relevance [33]. CRWs are specifically created for the generation and dissemination of consumer eWOM with the purpose of influencing other consumers' purchase decisions. In other words, ORs, which include both recommendations and opinions, clearly represent a consumer-oriented eWOM [5]. According to a highly cited study [34] with data from 56 countries, 70% of consumers trust ORs, being the second source of credibility for brand information, after recommendations from family and friends [12,35]. Another study with 201 students of business from an American university found that 92% of online shoppers read product reviews, of which, 89% felt their choice was conditioned by such reviews [36,37].

Many factors seem to contribute towards the perception of usefulness of ORs: quantitative factors such as the length of the review [38] or the number of reviews [4], qualitative factors such as the valence of comments or their readability [4,24,39], and reputational factors such as the identity and experience of the reviewer [20,40]. Some CRWs such as Amazon or TripAdvisor are incorporating systems that allow users to determine whether the opinions are useful or not, which, in turn, increases confidence. ORs provide consumers with relevant information which derives from different sources and is aimed at different goals: informative reviews give additional product information from the user's perspective, such as attributes, characteristics, and performance; recommendation reviews provide positive or negative evaluations of the product; and numerical ratings assign numerical values to a set of attributes considered relevant, based on the postconsumer user experience. With this information, potential customers create expectations and attitudes towards the consumption of the product or experience [5,8,27]. Figure 1 illustrates this process.

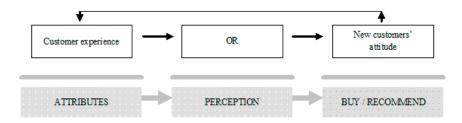


Figure 1. Online Reviews (ORs) feedback generation process.

Despite its usefulness, ORs are not free from criticism. The manipulation of opinions by companies or other interested parties is the main problem, although results are not conclusive [16,35,36]. Consumers use mental shortcuts (rules of thumb) to solve this problem, using peripheral issues (such as ratings) during the stage of searching for information, and core information (such as the content of the opinions or valence) at the stage of evaluating alternatives [41,42]. Another source of criticism comes from works that focus on the psychological bias of herd behavior and sequential behavior [43–45], since previous opinions may condition subsequent reviews due to social pressure.

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2.2. Effects of ORs on the Firm's Performance

The use of ORs has reached a special relevance for customers in the tourism industry [2,15,18,46,47], since the experiential nature of its products and services (destinations, hotels, and restaurants) does not allow consumers to know the true quality of the product before consumption, and therefore, enhances the importance of mitigating information asymmetry [5,6,48]. In a competitive market, with perfect information and nonpersistent stochastic disturbances, prices would tend toward equilibrium and improve economic sustainability. However, despite what would be expected according to the neoclassical theory, one major source of imperfect competition may be due to uncertainty, friction, or information costs. In this regard, a large number of communities, including TripAdvisor, Yelp, or Consumer Reports, are increasing their popularity among travelers and other consumers in the tourism industry [9,10,24], making it possible to increase the degree of information available in the market. ORs represent a challenge as well as an opportunity for tourism companies, since their analysis can contribute to the improvement of business processes reducing uncertainty, which could lead to sustainable competitive advantages and increase market competition [2,9,41,49–52].

The use of ORs in the restaurant industry is becoming an increasing issue, due to both the experiential nature of their products and the inherent subjectivity of their evaluation. While there is a tangible ("edible") part in a visit to a restaurant, the dining experience as a whole is intangible, and food cannot be tasted before making the purchase decision [53]. At the same time, this experience is determined by the presence of tangible attributes, such as money, food, or the restaurant design, or intangible attributes, such as the environment or the kindness of the staff [46,54,55], and whose importance is weighted differently by clients, resulting in a variety of purchase recommendations [55,56]. As stated by [54] using 2471 customer reviews regarding three hundred London restaurants, WOM has been for many years the best friend of small and medium restaurants, and according to [53], in the forums of the 20 largest American cities, ORs greatly increase the availability of information about the quality of a restaurant, especially in the case of restaurants that are relatively unknown.

In this context, OR management should be seen as a strategic question, as there are links between ORs and its financial performance [18,29,57,58]. However, research on the impact of ORs in the tourism industry has focused almost exclusively on factors associated with hotel establishments: reservations [59–61], prices per room [1,6,28,62,63], and sales [12,59,64].

Very few studies link ORs and restaurant performance and even less with the corporate performance. The paper by [16], based on an analysis of the universe of Yelp reviews for restaurants in San Francisco, California, as of February 2011, concluded that an additional half star in the rating of Yelp causes restaurants to receive reservations more frequently in prime time, and with greater impact when the alternative information is scarce. Kim et al. [17] found a significant positive relationship between the social media activities of the restaurants and the value of the company, measured by Tobin's q. Finally, [29] examined the influence of ORs on the financial performance of restaurants and explored the moderating effect of a certificate of excellence. This study, using the total number of reviews from four social media sites in 2016 (TripAdvisor, Yelp, Foursquare, and Urbanspoon), revealed that the number of consumers' ORs has a significant positive impact on restaurant performance. In addition, the moderating effect of the restaurant's certificate of excellence between the number of ORs and restaurant performance is significant.

3. Materials and Methods

3.1. Model Specification

To detect the combination of variables that best estimate the impact of ORs on financial performance, an adaptation of the Ordinary Least Squares (OLS) model proposed by [65], specifically designed for the profitability analysis of corporations, has been used. The proposed methodology and the different data used in this paper allow us to address the objectives in a sound manner. This model is designed to measure the generalized linear relationship between different company-specific factors

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and corporate profits. The model was estimated using a gradual regression procedure. Finally, five independent variables were included in the model as controlled variables. Equations (1) and (2) show two specifications using different measures of financial performance: Return on net worth (RONW), and Return on capital employed (ROCE). These two models were estimated for the total sample and for different countries.

$$RONW_{it} = \alpha_t + \beta_1 OR_{it} + \beta_2 Fixed \ assets \ ratio_{it} + \beta_3 Current \ ratio_{it} + \beta_4 Debt \ equity \ ratio_{it} + \beta_5 Total \ assets_{it} + \beta_6 Belong \ to \ a \ chain_{it} + \mu_{it}$$
 (1)

$$ROCE_{it} = \alpha_t + \beta_1 OR_{it} + \beta_2 Fixed \ assets \ ratio_{it} + \beta_3 Current \ ratio_{it} + \beta_4 Debt \ equity \ ratio_{it} + \beta_5 Total \ assets_{it} + \beta_6 Belong \ to \ a \ chain_{it} + \mu_{it}$$
 (2)

 $RONW_{it}$ is defined as profits available to equity shareholders/equity shareholders' funds of corporate i at time t, and $ROCE_{it}$ is defined as earnings before interest and tax (EBIT)/capital employed of corporate i at time t. For its part, α_t is the constant, and OR_{it} is measured on a five-point Likert scale, considering the value assigned by customers to the factors of food, service, and value for money [66]. This value is obtained from the TripAdvisor website and takes into account the age of the reviews, considering that previous reviews have less impact than recent ones [67]. This measure has been previously used in the restaurant industry literature, because it provides information to many users simultaneously and it can develop similarities between people who have expressed common views [29,54,68].

Likewise, some explanatory variables have been included in the model to control for the possible effect that the OR_{it} may have on corporate financial performance. First, we used the variables Fixed assets $ratio_{it}$ (net sales/average net fixed assets), and Total assets $_{it}$ (log total assets), to capture corporate size. We expected a positive relationship between size and profitability, because larger firms have better access to resources and advantage of economies of scale [65,69]. Second, the variable Current $ratio_{it}$ (current assets/current liabilities) refers to liquidity. A number of research studies observed the existence of a significant negative relationship between liquidity and corporate profitability [70–72]. Third, the variable Debt equity $ratio_{it}$ (total liabilities/shareholders' equity), which is used to represent capital structure [73,74], among others, affirmed which use less debt capital as compared to equity and has a negative relationship with corporate profitability. Finally, we used Belong to a $Chain_{it}$ (dummy variable taking value 1 if the corporate belongs to a restaurant chain and value 0 otherwise) as a measure of firm independence [75], and μ_{it} , which represents the error term.

3.2. Sample and Data

The sample consists of 800 restaurants selected from the total population of active restaurants in Europe in 2018. Additionally, a random sampling technique was used, stratified by five European Regions (France, Germany, Italy, Spain, United Kingdom), with a sampling error of less than 1%.

Data on the ORs of a restaurant corporation were collected from the TripAdvisor website in December 2018. First, we obtained the ORs of each establishment belonging to the corporation. Second, we assigned ORs to the corporation as an average of the values obtained for its establishments. Likewise, in order to obtain homogeneous information about ORs from the sample companies, a computer program was developed that allowed to capture the information in a few minutes. This short period of time minimized the problem of value changes in ORs while data was collected. A similar procedure has been successfully used in other tourism research works [76].

For its part, financial variables were obtained from the corporate financial statements from Amadeus Database by Bureau Van Dijk, which publish the compulsory financial statements of European companies, which include the main financial data of the corporation (balance sheet, profits

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and losses, and annual reports) for the year under study and meet the accounting standards required by the European Union.

4. Results

4.1. Descriptive Analysis

Table 1 summarizes the descriptive statistics for the dependent and independent variables, for the whole sample and for each country. The RONW value of the sample varies from 4.6% to 13.5%, suggesting a mean value of 12.5% (standard deviation of 12.2%). The ROCE varies from 0.2% to 7.1%, with a mean value of 1.8% (standard deviation 3.6%). The differences in terms of RONW and ROCE imply that the sample is characterized by profitability heterogeneity among the countries. On the other hand, the mean ORs of the restaurants sampled is 3.818 (standard deviation 0.586), with some heterogeneity between countries. Finally, the variables of size, liquidity, and capital structure also show some differences between countries, but a relatively low dispersion.

| | Total S. | France | Germany | Italy | Spain | United K. | J–B <i>p-</i> Value |
|-----------------------|----------|---------|---------|---------|---------|-----------|---------------------|
| No. of firms | 800 | 169 | 159 | 144 | 142 | 186 | 0.000 |
| Firms (%) | 100 | 21.122 | 19.875 | 18.000 | 17.750 | 23.253 | 0.000 |
| Belong to a chain (%) | 45.621 | 42.956 | 47.201 | 48.006 | 39.973 | 49.161 | 0.000 |
| RONW | 0.125 | 0.118 | 0.155 | 0.046 | 0.119 | 0.135 | 0.000 |
| | (0.122) | (0.117) | (0.179) | (0.072) | (0.151) | (0.231) | 0.000 |
| ROCE | 0.018 | 0.002 | 0.036 | 0.057 | 0.071 | 0.004 | 0.000 |
| | (0.036) | (0.070) | (0.083) | (0.093) | (0.114) | (0.032) | 0.000 |
| ORs | 3.818 | 3.461 | 3.223 | 4.054 | 3.633 | 3.969 | 0.000 |
| | (0.586) | (0.860) | (0.254) | (0.584) | (0.723) | (0.344) | 0.000 |
| Fixed assets ratio | 2.177 | 2.285 | 4.747 | 2.385 | 2.402 | 1.985 | 0.000 |
| | (1.463) | (1.541) | (1.016) | (2.295) | (1.440) | (1.295) | 0.000 |
| Current ratio | 1.182 | 1.191 | 1.359 | 1.299 | 1.241 | 1.147 | 0.000 |
| | (1.172) | (1.161) | (1.262) | (1.268) | (1.168) | (1.152) | 0.000 |
| Debt equity ratio | 2.091 | 1.055 | 4.991 | 4.085 | 3.245 | 1.794 | 0.000 |
| | (2.272) | (1.067) | (3.347) | (3.198) | (2.044) | (1.781) | 0.000 |
| Total assets | 4.447 | 4.418 | 4.760 | 4.236 | 4.275 | 4.513 | 0.000 |
| | (0.417) | (0.455) | (0.292) | (0.326) | (0.291) | (0.428) | 0.000 |

Table 1. Summary of descriptive statistics for the dependent and independent variables.

Notes: The figures in the table are expressed as means except in the case of the No. of firms, Firms and Belong to a chain. These last two variables are expressed in percentages. Standard deviations are reported in parentheses. J–B p-values are reported for the Jarque–Bera normality test; H_0 = normality.

Table 2 shows the correlation test results of the variables. There is a significant positive correlation between RONW, ORs, Fixed assets ratio, Total assets, and Belong to a chain. Conversely, a negative correlation is observed between RONW and Debt—equity ratio. Similar correlation results have been obtained with respect to the dependent variable ROCE.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|------------------------|----------|----------|---------|-----------|---------|--------|-----------|----------|
| RONW (1) | 1 | 0.174 * | 0.128 * | 0.257 ** | 0.113 | -0.088 | 0.168 * | 0.206 ** |
| ROCE (2) | 0.174 * | 1 | 0.195 * | 0.154 * | 0.047 | -0.058 | 0.263 ** | 0.234 ** |
| ORs (3) | 0.128 * | 0.195 * | 1 | 0.213 * | 0.001 | -0.051 | -0.098 | 0.155 * |
| Fixed assets ratio (4) | 0.257 ** | 0.154 * | 0.213 * | 1 | 0.440 * | -0.002 | -0.279 ** | 0.103 |
| Current ratio (5) | 0.113 | 0.047 | 0.001 | 0.440 * | 1 | 0.068 | 0.122 | 0.034 |
| Debt equity ratio (6) | -0.088 | -0.058 | -0.051 | -0.002 | 0.068 | 1 | -0.029 | 0.045 |
| Total assets (7) | 0.168 * | 0.263 ** | -0.098 | -0.279 ** | 0.122 | -0.029 | 1 | -0.078 |
| Belongs to a chain (8) | 0.206 ** | 0.234 ** | 0.155 * | 0.103 | 0.034 | 0.045 | -0.078 | 1 |
| J–B <i>p</i> -value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | | | |

Table 2. Correlation test results.

Note: *, ** Coefficients are significant at the 0.05 and 0.01 levels, respectively.

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4.2. Estimated Results

Tables 3 and 4 show the regression results for the dependent variables RONW and ROCE, respectively. For the whole sample, the empirical findings confirm that the coefficients of the variables ORs, Fixed assets ratio, Total assets, and Belong to a chain are significant (ORs and Total assets at 5% significance level, and Fixed assets and Belong to a chain ratio at 1% significance level). Specifically, restaurant corporations with high value in ORs, belonging to a chain, and high values in the Fixed assets ratio and Total assets, will have higher profitability levels. However, the coefficients of the Current ratio and Debt equity ratio are not significant for RONW and ROCE. Similar results have been obtained for each country in the sample. Also, the validity tests of the regression model (F, Durbin–Watson, ANOVA, VIF, and J-B tests) confirm that the results are robust. In addition, the adjusted \mathbb{R}^2 is relatively high, indicating that the explanatory variables have a significant ability to explain the change in the dependent variables.

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Table 3. Results of OLS regression (Dependent variable: RONW).

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| | Total S. | France | Germany | Italy | Spain | United K. |
|-------------------------|----------|----------|----------|----------|----------|-----------|
| Constant | 0.023 ** | 0.002 ** | 0.031 ** | 0.099 ** | 0.041 ** | 0.035 ** |
| | (0.000) | (0.003) | (0.000) | (0.007) | (0.000) | (0.002) |
| ORs | 0.027 * | 0.026 * | 0.018 ** | 0.018 * | 0.016 ** | 0.036 ** |
| | (0.042) | (0.034) | (0.002) | (0.043) | (0.006) | (0.001) |
| Fixed Assets ratio | 0.037 ** | 0.027* | 0.042 * | 0.042 * | 0.074 * | 0.086 * |
| | (0.003) | (0.049) | (0.028) | (0.015) | (0.044) | (0.026) |
| Current ratio | 0.015 | 0.021 | 0.044 | 0.032 | 0.059 | -0.057 |
| | (0.982) | (0.620) | (0.787) | (0.258) | (0.292) | (0.539) |
| Debt equity ratio | -0.103 | -0.181 | -0.088 | -0.111 | -0.119 | -0.006 |
| | (0.280) | (0.078) | (0.502) | (0.435) | (0.066) | (0.322) |
| Total assets | 0.019 * | 0.012 * | 0.039 * | 0.044 * | 0.028 * | -0.035 * |
| | (0.041) | (0.014) | (0.022) | (0.043) | (0.023) | (0.038) |
| Belong to a chain | 0.023 ** | 0.037 ** | 0.028 ** | 0.032 * | 0.014 * | 0.015 * |
| | (0.003) | (0.000) | (0.001) | (0.028) | (0.039) | (0.021) |
| Adjusted R^2 | 0.360 | 0.339 | 0.206 | 0.447 | 0.291 | 0.395 |
| RMSE | 0.163 | 0.183 | 0.191 | 0.108 | 0.184 | 0.173 |
| χ^2 | 3.069 | 3.525 | 1.499 | 2.721 | 1.484 | 1.490 |
| <i>p</i> -value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| F-test | 549.023 | 681.498 | 832.991 | 329.677 | 431.429 | 588.290 |
| Significance | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Durbin W. | 1.982 | 1.934 | 1.893 | 1.887 | 1.903 | 1.965 |
| ANOVA | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Mean VIF | 1.087 | 1.144 | 1.351 | 1.062 | 1.490 | 1.329 |
| J–B <i>p</i> -value | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Heteroskedasticity test | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | | | | | | |

Notes: Breusch–Pagan/Cook–Weisberg test for heteroskedasticity, H_0 ; Constant variance χ^2 , (1) = 1834.344, Prob > χ^2 = 0.0000; p-values are reported for the Jarque–Bera (J–B) normality test; H $_0$ = normality; RMSE, Root Mean Square Error; Coefficients significance is reported in parentheses; *, ** Coefficients are significant at the 0.05 and 0.01 levels, respectively.

These results can be interpreted as indicating that a composition of resources measured in terms of a greater ORs value, belonging to a chain, and large size give rise to higher profitability. The ORs had a significant positive influence on the financial performance of corporations (RONW and ROCE). Previous studies have confirmed that ORs are a significant predictor of the performance of hotel establishments [17,59] and restaurants [29]. However, there are no studies that identify ORs as an important determinant of the financial performance at corporate level, possibly due to the challenge of associating the ORs of the establishments and the financial performance data of the corporations. Therefore, this finding contributes to the existing restaurant literature by demonstrating that ORs are one of the leading predictors of the financial performance of corporations in this industry.

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Total S. France Germany Italy Spain United K. (Constant) 0.042 ** 0.021 * 0.012 ** 0.004 ** 0.035 ** 0.039 ** (0.003)(0.016)(0.000)(0.001)(0.000)(0.004)ORs 0.023 * 0.022 * 0.017*0.020 * 0.016 ** 0.021 * (0.033)(0.014)(0.049)(0.012)(0.021)(0.007)Fixed Assets ratio 0.011*0.019*0.032 ** 0.019 ** 0.021 ** 0.013 * (0.016)(0.026)(0.002)(0.008)(0.006)(0.021)Current ratio 0.060 0.012 0.003 0.073 0.065 0.002 (0.057)(0.454)(0.776)(0.329)(0.795)(0.066)Debt equity ratio -0.059-0.135-0.078-0.058-0.061-0.043(0.061)(0.054)(0.103)(0.208)(0.131)(0.147)Total assets 0.008*0.016 * 0.027*0.034*0.011 * 0.002 * (0.036)(0.021)(0.040)(0.049)(0.033)(0.041)Belong to a chain 0.009 ** 0.002 ** 0.003 ** 0.013 ** 0.025*0.007*(0.005)(0.002)(0.000)(0.003)(0.017)(0.024)Adjusted R² 0.436 0.4340.378 0.580 0.503 0.452**RMSE** 0.130 0.138 0.191 0.105 0.1220.1013.657 χ^2 2.202 3.821 13.989 1.483 4.441 p-value 0.000 0.000 0.000 0.000 0.000 0.000 F-test 324.901 490.171 871.049 588.302 325,478 597.591

Table 4. Results of OLS regression (Dependent variable: ROCE).

Notes: Breusch–Pagan/Cook–Weisberg test for heteroskedasticity, H_0 ; Constant variance χ^2 , (1) = 1723.749, Prob > χ^2 = 0.0000; p-values are reported for the Jarque–Bera (J–B) normality test; H_0 = normality; RMSE, Root Mean Square Error; Coefficients significance is reported in parentheses; *, ** Coefficients are significant at the 0.05 and 0.01 levels, respectively.

0.000

1.834

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1.778

0.000

0.000

0.000

1.940

0.000

1.461

0.000

0.000

4.3. Postestimation Analysis

Heteroskedasticity test

0.000

1.844

0.000

1.038

0.000

0.000

0.000

1.901

0.000

1.123

0.000

0.000

Significance

Durbin-W

ANOVA

Mean VIF

J–B p-value

As mentioned above, we detected empirical evidence of the significant effect that ORs have on the financial performance of European restaurant corporations. Although this effect is a global phenomenon for the whole sample, our results also indicate a heterogeneous pattern among European countries. Therefore, in this section, we present nonparametric results that can help to understand this heterogeneity. Specifically, it has been analyzed how the financial performance of restaurant corporations evolves in relation to ORs, after controlling for whether or not the corporation belongs to a chain.

Figures 2 and 3 show the relationship between ORs and the estimated RONW and ROCE values, respectively. These figures are based on a moving median of ORs variable-related estimated financial performance. The two-way figures are calculated as cross medians and are then represented as a linear diagram. In a median-band plot, the "x" axis (ORs) is divided into equal-width intervals, and then the median of "y" (RONW in Figure 2 and ROCE in Figure 3) and the median of "x" (ORs) is calculated in each interval. The median is the middle value separating the greater and lesser halves of a data set. The median is a nonparametric result, because we do not assume that the estimated value in each ORs interval follows any specific distribution. We presented the median because it might be seen as a better indication of central tendency than the average, given that it is not skewed by a small proportion of extremely large or small values and neither is a more robust indicator of the "typical" value than the mean.

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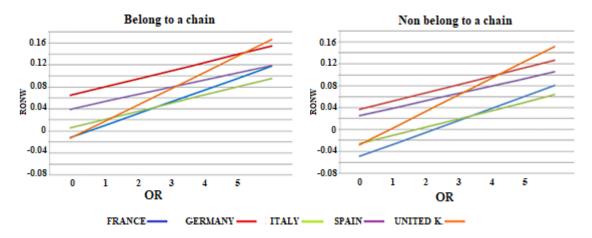


Figure 2. RONW. Moving median by ORs variable.

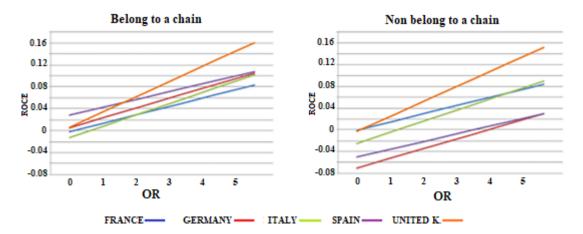


Figure 3. ROCE. Moving median by OR variable.

Figure 2 reveals that, as the ORs value increases, RONW values increase, although this effect is more noticeable for restaurant corporations belonging to a chain. These results support the proposal that ORs play an important role in the RONW levels of European restaurant corporations. For example, in the case of Germany, if ORs are around 4 points, the estimated RONW level is 9% for corporations belonging to a chain, and 6% if the corporation does not belong to a chain. In the case of ROCE, ORs have a similar effect (Figure 3). For example, in the case of Spain, if ORs are around 5 points, the estimated ROCE level is 10.7% for corporations belonging to a chain and 3% if the corporation does not belong to a chain.

5. Discussion and Implications

5.1. Theoretical Implications

Two main theoretical contributions emerge from this study. First, ORs have a positive and significant impact on the financial performance of restaurant corporations (RONW and ROCE). Previous studies have confirmed that ORs are a significant predictor of the sales of restaurant establishments [29], and the number of reservations received by them [16]. However, this study is the first to analyze how ORs directly influence the financial performance of corporations, demonstrating that such influence occurs not only at the establishment level, but also at the corporate level. Secondly, this study confirmed that the effect of ORs on the financial performance of restaurant corporations is verified in all the European countries analyzed. However, it has also shown that this effect presents certain heterogeneity at the country level, since the intensity of the effect differs depending on the

country studied and whether or not the corporation is integrated into a chain. This result has not been investigated in international tourism studies. International comparison has never been dealt with in previous studies on restaurants, which has referred to samples from a city or from a single country [16,17,29].

5.2. Managerial Implications

This study also provides information to improve the management of restaurant corporations, defining certain practices to achieve superior financial performance. On the one hand, the higher the ORs value of the establishments, the better the financial performance of the corporations. Therefore, restaurateurs should promote trusting relationships with their customers, bearing in mind that eWOM influences the purchasing decisions of other consumers. These findings are consistent with those of [29], as they understand that ORs play an important role in the eWOM about restaurants, and that it is especially effective for many of the younger generations, including the millennial generation, who prefer to use CRWs instead of traditional media. On the other hand, belonging to a chain also allows restaurant corporations to increase ORs' effect on their financial performance. Chain membership is an important issue in the literature on the profitability of companies in the tourism industry. For example, [77] found that Belong to a chain is an important factor to promote the efficiency of hotel corporations. Therefore, managers of restaurant corporations must understand that they can benefit from being integrated into a chain, possibly because of the greater notoriety provided by the ORs of all the establishments in a chain, and that they move to the corporation in a more intense way.

6. Conclusions

The empirical evidence in this paper has helped us to understand the interactions of CGM and the financial performance of restaurant corporations, bringing knowledge about a gap in academic research. Previous studies that have dealt with financial performance measures have focused on analysis at the establishment level rather than at the corporate level. However, CGM is not only an important phenomenon for economic sustainability of the establishments, but also for corporations.

This paper tested empirically the impact of ORs on different advanced measures of corporate financial performance. Results show that restaurant corporations with a high value of ORs in their establishments will also have higher profitability levels. Using a sample of catering industry corporations from six European countries, this study proved that the positive effect of ORs on the financial performance of the establishments is a global phenomenon that also impacts the financial performance of corporations in the main European countries.

Likewise, the results of this study provide a basis to identify new determinants of competitive advantage, which, in turn, can be used to improve performance. CRWs are drawing consumers' attention in order to mitigate the lack of information regarding a gastronomic experience, and restaurants should be aware of this trend. Online presence, coupled with good management of the dining experience, will make consumers wish to express opinions about the restaurant, whose positive evaluations would attract new customers and therefore would improve the corporate performance. Therefore, the restaurant industry cannot ignore the phenomenon of ORs as a signal of customer satisfaction, not only for the obvious influence on their online reputation, but also for the subsequent effects that such reputation can exert on their corporate financial performance. Both social media and financial performance have to be managed continually over time, so as to be transformed into a long-term competitive advantage that provides economic sustainability.

Despite these contributions, the present study is not without limitations. Some studies point to the relevance of the characteristics of a restaurant, its orientation to the public (from fancy restaurants to restaurants with affordable prices—low cost) or geographical location (in the city center, on the periphery, or in a village) on their financial performance, so a future line of research could include segmentation to check whether the effects are constant throughout the whole industry. Also, our analysis has been restricted to ORs that appear on TripAdvisor; therefore, future research could

compare these results with the effects of other CRWs. In addition, future research could set an approach to investigate which macro conditions affect the relationship between ORs and financial performance of restaurant corporations. Finally, the restaurant is an industry with a very important weight in a developed economy such as Europe, so it could be of interest to carry out similar analyses in other economies, such us emerging markets.

Author Contributions: This study has been designed and performed by all of the authors. S.M.F.-M. and M.D.-P. collected the data. S.M.F.-M., M.D.-P. and F.G.-V. analysed the data. The introduction, literature review and hypothesis were written by S.M.F.-M., M.D.-P., and J.A.C.-S. All of the authors wrote the discussion and conclusions. All authors have read and agreed to the published version of the manuscript.

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