Article

The Impact of Sustainability and Leadership on the Innovation Management of Michelin-Starred Chefs

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Abstract: This study considers relationships among leadership styles and skills (sustainability leadership, innovation leadership and sustainable innovation) as drivers of sustainable innovation capability in the Michelin-starred restaurant context. The study used semi-structured qualitative interviews with a sample of nine chefs in Germany. The purpose was to examine the impact of sustainability and leadership on the innovation management of Michelin-starred chefs and to determine crucial aspects impacting haute cuisine innovations. Following earlier research, the findings indicate that a holistic view of sustainability is held by high-end chefs in this sector with considerations for the four main pillars (environmental, social, economic, cultural). Leadership style was seen as key to innovation management in the haute cuisine context. However, the interviews revealed that the issue of environmental sustainability was perceived to be of lesser significance when considering innovations in haute cuisine, due to customer expectations and insufficient legislation or government incentives. The external factors of market demand, involvement by a variety of stakeholders, and guest values/needs were viewed as key determinants of innovation type, success and directions. The internal factors of fitting with the business vision, brand loyalty of consumers, and employee skills and engagement were identified as key drivers of innovation decisions and success.

Keywords: restaurants; innovation; sustainability; leadership; Michelin-starred chefs

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1. Introduction

Sustainability is progressively becoming a highly critical issue in the business world. Society has developed a heightened sensitivity to global social and environmental concerns [1], causing companies to increasingly incorporate social and environmental goals into their corporate strategies, management practices [2,3] and daily operations [1]. The hospitality industry is equally affected by this global trend as consumers are increasingly conscious of issues related to the origin of food, sustainable agriculture, food waste, and labor rights compliance along the whole supply chain [1].

Given the current dynamic business world, companies search for various ways to achieve a competitive advantage [4]. Effective leadership is an essential driver of organizational competitiveness [5], steering the organization and its employees towards improved market performance [6]. It serves as an important strategic resource [7] and influences operational processes, innovation capabilities and the development of employees, and also ensures organizational learning and quality output [8]. In the service sector, the impact of leadership is equally indisputable [8,9]; in the restaurant industry, leadership skills are highly relevant for delivering high-quality services and fostering innovation [6].

Innovation capability has been shown to be essential for organizational viability and serves as a substantial source to gain a competitive advantage [10–12]. Globalization, ever-increasing competition, technological advances, the shortening of product life cycles, changing market needs and constrained resources are just a few contributors to the growing

pressure on businesses to innovate [4]. The restaurant industry is particularly affected in its competitive climate, where innovations tend to be imitated at a faster rate than in the industrial sector [13].

Despite the rising importance of sustainability, leadership, and innovation [5,14–19], as well as the impact of the culinary innovations of Michelin-starred chefs on the entire restaurant industry [20], these issues applied in the restaurant context have yet to be fully understood in scientific literature [21]. Additionally, no studies have been conducted that investigate the relationship and interdependence between the three topics, especially with regard to the hospitality industry. Thus, the purpose of this article is to address the aforementioned literature gap by examining the impact of sustainability and leadership on the innovation management of Michelin-starred chefs. This study's contribution includes the development of a theoretical framework that illustrates the interconnection of the three constructs, as well as internal and external factors influencing the model; thus, it provides a holistic overview. Additionally, the study contributes to this gap using qualitative methods to interview Michelin-starred chefs to provide rich understandings of practice in the high-end hospitality industry.

The following sections provide a background on the concepts of sustainability, leadership, and innovation, especially with regard to the hospitality and high-end culinary industries. An integrated model is presented based on a synthesis of the findings. Overall, the current article sheds a light on the impact of sustainability and leadership on the innovation management of Michelin-starred chefs, and provides theoretical and practical linkages among the concepts of sustainability, leadership, and innovation in haute cuisine.

2. Literature Review

2.1. Sustainability

According to the National Restaurant Association [22], the issues of environmental sustainability and green practices are ranked amongst the top ten food trends. Customers are increasingly concerned about sustainability and are more discerning about the sustainable performance of restaurants. As a result, sustainability has become an important evaluation criterion with regard to consumers' choice of a restaurant. The main focus of guests is on the ecological component of sustainable practices, i.e., food products and their processing [22]. However, the multi-dimensional concept of the triple bottom line in the hospitality industry captures sustainability more effectively (i.e., social, environmental and economic pillars) [23]. Holcomb, Upchurch and Okumus [24] stressed the inclusion of a fourth dimension of sustainability in the traditional approach, namely, the cultural one. Empirical evidence from the hospitality industry indicates it to be a fourth underlying pillar of the sustainability model in this sector [23].

Because the cultural heritage of Michelin-starred dishes and their locations can be a key factor in high-end restaurants selection, these restaurateurs should assess the cultural element to develop a successful sustainability strategy [24]. For instance, the menus' cultural authenticity and the maintenance of cultural traditions, along with cross-cultural influences, contribute to the cultural dimension [25]. Furthermore, cultural value has implications for the economic performance and restaurant competitiveness with the sustainable promotion of cultural resources. It can attract new customers and expand the existing business scope [24].

Jang, Kim and Lee's [26] empirical study indicated the majority of consumers are willing to pay a premium for dining establishments that are committed to environmental sustainability. Due to this change, sustainability is rapidly becoming a critical driver of competitiveness [27], and restaurants face pressure from other stakeholders (suppliers or investors) to adopt green practices. The environmental aspect of sustainability appears to be the primary focus for restaurants [23]. In haute cuisine, for example, food waste is mentioned as a major issue in terms of sustainability [22,28]. The production of food is frequently implicated as a major contributor to air pollution, which in the long run can also have a harmful effect on health [29], relating to the social dimension of sustainability.

To mitigate negative environmental impacts, restaurants are seeking changes in food procurement, water savings, energy efficiency, service delivery and waste management [30]. Besides satisfying customer needs, potential cost-saving is a further reason for sustainable practices in restaurants [31]. Social sustainability in restaurants, particularly as it relates to employee practices, is also gaining importance. Once sustainability management practices are effectively implemented, the learning effects of employees are high during their practical application, which further facilitates optimization processes [1].

Sustainable business practices are largely considered to gain a competitive advantage and a higher market share [32,33]. In addition, sustainable development has been shown to be strongly linked to innovation [33]. The notion of sustainability across the restaurant industry is inconsistent with the fact that many restaurants are still skirting environmental regulations, as environmental authorities and the regulators appear to underestimate the impact of the restaurant business on the environment [34].

2.2. Leadership

The concept of leadership is examined in numerous scientific disciplines, and various theories dealing with leadership issues can be found in the literature [4]. Effective leadership is consistently determined as essential for successful companies [5], a key strategic resource [7], and a substantial influence on the ability of organizations to drive innovation [35].

As sustainability has become a critical issue, organizations have acknowledged the crucial role of leadership in managing environmental challenges [36]. Leadership style is found to have a significant connection with organizational performance [15], giving sustainable leadership (SL) growing importance these days. Nevertheless, there has been limited research on the impact of leaders in advancing corporate sustainability and sustainable business development [37].

A sustainable leader possesses the ability to motivate all stakeholders to act in a responsible manner to achieve sustainability-related business targets [37]. Pless, Maak and Stahl [38] argued that SL focuses on nature and society, and seeks value creation with a positive impact on the three dimensions of sustainability. SL embodies the concept of being simultaneously effective and responsible. Unlike some leadership approaches, this responsibility also encompasses external stakeholders such as customers, suppliers or shareholders [39]. SL refers to an emerging awareness of leading organizations in a way that considers the impact they have on the environment, on society, and on the economy [40].

In the culinary industry, SL was identified as having a direct beneficial impact on the environmental sustainability of restaurants and an indirect positive impact on environmental sustainability by means of stakeholder engagement [15,37]. After all, SL practices in restaurants that are driven by strong social values are positively linked to successful market performance due to an enhanced image, as well as increased customer and employee satisfaction, and financial performance [41].

Studies on innovative leadership (IL) are still scarce; yet, the issue remains a multifaceted area of investigation that is becoming increasingly relevant [16] due to the limits of more traditional leadership benefits [42]. An uncertain business environment, heightened competition, and fast-changing technology require organizations to examine factors that enhance their innovation potential [17]. An improved innovation performance needs a supporting environment [43], and leadership style is emphasized as a key driver of an innovative climate [44]. Because the business viability hinges on the capability of its leaders to devise effective and superior solutions to diverse challenges, the need for a more advanced mindset related to innovation and leadership is imperative [45].

The impact of leadership in driving innovation is indisputable [39], and transformational leadership affects the acceptance of out of the ordinary idea generation and the pursuit of organizational innovation [46]. Innovative leaders foster a corporate learning culture and focus on exploration. They encourage open-mindedness, embrace mistakes, and empower team members [4,47]. IL establishes a favorable working climate based on

trust, loyalty and teamwork. Furthermore, it allows subordinates to have a meaningful influence on innovation outcomes [4]. IL enriches the culture of responsibility within an organization and promotes shared knowledge and intelligence at the vertical and horizontal levels [48]. As a result, the innovations and eventually increased performance of the company increase [48], due to the creation of a unique, new and satisfactory solution [49]. Koziół-Nadolna [4] considers IL as a five-dimensional construct consisting of the will to innovate, a creative mindset, tolerance of differing viewpoints/risks, the establishment of mechanisms toward innovation, and the implementation of innovative ideas.

2.3. Innovation

Innovations are crucial for the success of a company and serve as an essential means to succeed [11]. Crucial for a successful innovation is its considerable added value for the respective target market [50]. Depending on the type of innovation, specific management approaches are required regarding the development, implementation and diffusion of the innovation [51].

Earlier studies have supported a need for a more responsible approach to economic, social and environmental resources, which is why the pursuit of sustainable innovation is becoming increasingly prevalent [19]. However, empirical research on this topic is scant, as sustainable innovation is still a fairly new scientific issue [52]. The concept of sustainable innovation aims not only to drive firm success in the market, but also to preserve the planet and contribute to society [19]. Horbach [53] points out that sustainable innovation includes not only the ecological dimension, but also social and economic elements. Similarly, Rennings [54] states that sustainable innovation covers all dimensions of the triple bottom line, and that its implementation is carried out at technological, institutional, and social scales. The OECD [55] defines sustainable innovation as the creation and utilization of novel products, services, processes or business models that seek to avoid or considerably mitigate environmental hazards and adverse impacts arising from resource use. Ultimately, sustainable innovation has the potential to establish new benchmarks of sustainability practices for companies, making them pioneers in this field [52].

The Michelin Guide is a synonym of luxurious high-end restaurants, also referred to as haute cuisine restaurants. With sales of 1.2 million books in eight countries, the Michelin Guide is the most famous and reputable evaluation system for high-class cuisine [56,57].

The trend towards sustainability is clearly visible in the hospitality industry, especially in fine dining restaurants. The awareness of consumers concerning the responsible use of resources is constantly growing, and so is the demand for healthy food from organic farming processing [22]. Introducing a new pictogram, the green star, for the first time in 2020, the Michelin Guide offers consumers an orientation tool in terms of the sustainability of restaurants.

As Michelin-starred restaurants are known for high quality standards, but also for trendsetting in the gastronomy sector, innovations by Michelin-starred chefs have the potential for a great impact on the entire culinary industry [20]. Despite the historic “trickle down” aspect of Michelin-starred restaurant trends, there are few studies that deal with this issue [21]. As a result, the theoretical framework for innovation management in the high-end restaurant industry is at a rather rudimentary level [58]. The approach to achieving successful innovations in the hospitality industry is consequently often based on personal experience or intuition [59]. However, innovation is as relevant for the hospitality industry as it is for manufacturing sectors [60]. Thus, strategic innovation management has also become an obligatory management task in the gastronomy sector. As innovation in the food and hospitality industries tends to replicate faster than industrial innovation, restaurants must undergo a continuous innovation process to stay ahead of the competition [13].

The literature provides numerous different approaches describing culinary innovation [61,62]. Culinary innovation can be seen as a process created in the business practice of chefs. In addition, innovations have a situational context, which in gastronomy implies that a culinary innovation only exists when other stakeholders in the hospitality industry

perceive it as such [62]. Culinary innovation can be said to exist when the successful conversion of an illusory concept into an added value is achieved [63]. It can be seen as a multidimensional construct [64], and innovation capability in the culinary industry describes the ability to successfully predict shifts in customer expectations, preferences and demands [65]. This capability results in designing more sophisticated or new-to-the world culinary products or services [65], which ultimately lead to a competitive advantage in their industry.

2.4. The Linkage between Sustainability, Leadership and Innovation

Even though innovation has been a frequent topic, a gap in the literature exists connecting leadership and innovation [66]. Moreover, the concept of SL is a relatively recent area of research, but has entered prominently into leadership studies due to the emergence of issues such as business ethics, integrity, and corporate responsibility, as well as a heightened concern for environmental and social sustainability as increasingly important competencies [66].

Because the terms sustainability, leadership and innovation are without a universally accepted definition across disciplines, the combination into a conceptual, integrative model is challenging [67,68]. While the relationships of leadership and innovation have received some investigation, for example [4,19,36,69], the theoretical and empirical examination of the joint relationship among the concepts of sustainability, leadership and innovation remains lacking in the literature. Figure 1 graphically illustrates a synthesis of the findings derived from earlier studies, namely, the interconnection of the three constructs, as well as internal and external variables influencing the three-dimensional framework in an integrated model.

Figure 1. Integrated sustainability–leadership–innovation model.

The center of the integrated sustainability–leadership–innovation model is the goal of the concept, i.e., to achieve sustainable innovation capability within a business [11,45]. Arranged around the center are the three constructs being investigated, i.e., sustainability, leadership and innovation. The graphical display is meant to illustrate that each individual element has an impact on innovation management and the resulting sustainable innovation capability of a firm (in this study, in the Michelin-starred restaurant context). The double-ended arrows between the variables indicate that they mutually affect each other and are interdependent. The right-hand side identifies both internal and external determinants that may also influence innovation management with regard to leadership and sustainability.

Leadership and innovation capability are interconnected as the way leaders motivate and interact with their employees, and establish the framework for their behavior, facilitates the commitment and ability of employees to initiate and realize innovations.

For instance, leaders encourage their employees, define precise objectives, or grant them autonomy [4,35,68]. In addition, leaders provide an inspiring and challenging vision that represents a sense of purpose vital to integrating and aligning the efforts of employees [6,66]. Transformational leadership has been found to have a significantly positive correlation with business innovation [70–72]. Furthermore, its impact on the successful implementation and market performance of organizational innovations has been confirmed [72], as this leadership style enhances and accelerates the potential for a reaction to business environment changes [4,68]. Similarly, Rosing, Frese and Bausch [71] consider leadership to be an ever-increasing important determinant of innovation output.

Sustainability and leadership also appear interdependent; sustainable leaders are concerned about the impact of organizational practices on the environment, including economic, social and ecological effects [40,73]. Sustainable leaders use their position to promote business ethics [66] by exemplifying responsible behavior, establishing and practicing ethical norms, and monitoring compliance with them [15,73]. Moreover, SL focuses more on the practices required to implement innovations with respect to environmental challenges [66,74]. Additionally, sustainable goals can be incorporated into a company's future vision, the core component of transformational leadership, which in turn fosters sustainable innovation [36,37,66]. Ultimately, the extent to which an innovation aligns with existing corporate values significantly determines the probability of the adoption of a sustainable innovation [75].

The link between innovation and sustainability is compelling; sustainable innovation is not only imperative to drive the economy, but also to preserve our planet. Sustainable innovation is the only approach to create innovations that meet the current challenges of sustainability [19]. Hence, sustainability is considered the pivotal driver of innovation in the 21st century [69]. The challenges of sustainability may serve as a source of inspiration for organizations to develop innovative products, services or processes that are beneficial to society and the environment [66].

By looking more deeply at the linkage and interconnection between all the three components, innovation appears to be a mediator between the leadership and environmental, social and financial performance of a firm [39]. Earlier studies have indicated that the combination of transformational, inspirational and ethical leadership is crucial for the creation of successful sustainable innovations [66].

The illustrated internal and external factors are relevant to each of the presented concepts, and need to be addressed in innovation management, as they contribute to both general innovation capability and sustainable innovation capability. IL appears to be beneficial when including a variety of stakeholders (inside and outside the company) in innovation management [4,45]. Sustainability (and SL) consider the environment and relevant laws and regulations [25], as well as stakeholders and the economic viability of a business [25,76,77].

3. Methodology

3.1. Data Collection

Based on the purpose of this article and the findings of the literature review, two overarching research questions were defined for investigation in this study. First, it was intended to examine the impact sustainability and leadership have on the innovation management of Michelin-starred chefs. Second, it was designed to assess if linkages and interconnections exist among the three concepts of sustainability, leadership and innovation in Michelin-starred cuisine.

Empirical research on sustainability, leadership, and innovation management in the culinary industry (particularly in Michelin-starred cuisine) is scarce [16,21,37,45,52,58,66]. Due to the complexity of both the research questions and the interconnections among these concepts, it was essential to yield meaningful explanations. For this reason, a qualitative method was used in this study to avoid a narrow focus. Instead, the qualitative design was used to engage with theoretical paradigms in an open-minded and curiosity-driven

way, thereby gaining new perspectives [78]. The qualitative method allows for additional questions to provide a richer comprehension of complex topics [78]. Within the framework of the present scientific work, expert interviews (the most frequently used instrument for gathering information in qualitative research [79]) were chosen as the primary tool for data collection. The researcher conducted semi-structured interviews, as they allow for intelligibility and flexibility, and, most importantly, may reveal significant and oftentimes concealed aspects to provide crucial insights on the topic [80]. To guide the data collection, a protocol of initial questions was designed. Further, supplementary questions were asked by the researcher that emerged during the interviews for greater clarity. The creation of the interview questions was based on the synthesis of the literature and the elaborated theoretical model. The objective of the interview questions was (a) to capture the interviewees' understanding of the concepts of sustainability, leadership and innovation, (b) to comprehend the impact of sustainability and leadership on the innovation management of Michelin-starred chefs, and (c) to identify the linkages and interconnections of the three framework concepts in the context of haute cuisine.

Considering the research questions, the sample consisted of knowledgeable and highly recognized experts in the research field of this article. For this purpose, the researcher identified German restaurants that have been awarded with a minimum of one Michelin star by the Michelin Guide in 2021. Out of these 310 dining locations, which constitutes an unprecedented total number of Michelin-starred restaurants [81], a sample of nine Michelin-starred chefs was selected for this study. For the sake of clarity, it should be mentioned that the awarded sample refers to the traditional Michelin stars and not to the newly introduced green star. The interviewed chefs were selected to ensure outstanding expertise and performance in their discipline. They have been consistently ranked with one or more stars in the Michelin Guide between 1986 and 2021. Eight of the respondents were male and one female, aged 28 to 62 years. Data collection was conducted in person or by telephone, and each interview lasted approximately 45 to 80 min. The interviews took place in German. Besides the notes taken by the researcher, the interviews were audio-recorded with the consent of the interviewees. The field notes were compared and supplemented with the transcribed recorded dialogues prior to data analysis.

3.2. Validity and Reliability

A thorough evaluation of research quality is imperative to ensure that the results can be applied in practice, and that their integrity is guaranteed [82]. Therefore, issues impacting internal and external validity, as well as the reliability of the conducted qualitative study, will be addressed in the following ways.

Internal validity describes the accuracy with which the results represent the data [82]. The researcher considered two main ideas to strengthen the internal validity of the results of this study. First, a distinct research framework was developed by composing the research questions according to the underlying literature and the derived theoretical model. Second, pattern matching was carried out by comparing the results of the study with the existing research.

External validity refers to the applicability of the results to different settings and contexts [82]. To improve the generalizability of the findings, a semi-structured interview design was used for data collection. For this purpose, structured interview questions firmly defined in the question catalog were employed. The eligibility criteria for the interviewees were determined to be an expert sampling method. Expert interviews allow views to be gathered from individuals who have specific knowledge and acknowledged expertise concerning the respective topic—in this study, the influence of sustainability and leadership on the innovation management of Michelin-starred chefs.

Reliability indicates the consistency within the applied analytical methods [82]. In the present qualitative study, two primary approaches were used to enhance reliability. First, the researcher designed a question catalog (or protocol) to assure that the intended interview questions were consistently posed to every respondent within the sample. Second,

the interviews were recorded to eliminate data collection biases and thus missing data. Finally, the transcripts of the recordings were compared with the notes of the researcher, assessing consistency among them. The key research design considerations are succinctly presented in Table 1.

Table 1. Research design considerations for validity and reliability.

Considerations	Design of this Research
Internal Validity	1. Research questions and hypotheses derived from underlying literature and theoretical model 2. Results of the conducted study compared with existing literature
External Validity	1. Structured interview questions 2. Eligibility criteria: expert sampling method
Reliability	1. Development of a question catalog 2. Recordings of interviews and transcripts to assess consistency with field notes of researcher

3.3. Data Analysis

The data were processed by means of deductive analysis, whereby inference is drawn from the general to the explicit starting from theory, formulating research questions based on the literature, analyzing the results of the research, and revising the theoretical evidence [83]. Prior to the collection and analysis of the empirical data, the first research phase was an in-depth literature review, which serves as the basis for the study. Subsequently, the research questions were developed from the findings of the literature, and the theoretical model derived from them. The collected data were analyzed by a qualitative analysis technique using the interview responses as a basis. Initially, the transcribed responses were coded to identify relevant and recurring themes and to subsequently deduce patterns, commonalities, and differences [84]. Secondly, the codes were assigned to superordinate categories to build a conceptual scheme appropriate to the dataset, and to synthesize the obtained results of the study in a more interpretive way to derive the key findings [85].

Specifically, nine interviews with Michelin chefs were recorded and transcribed. Initial framework themes were used to guide the interview questions (i.e., sustainability, leadership and innovation in Michelin-starred restaurants). Once all interview documents and data were coded, 15 unique codes emerged, and 70 categories were formed from the primary codes. Table 2 provides a list of all themes, codes and categories; reporting frequency is provided based on the number of respondents who commented on each category (i.e., 6 out of 9 (6/9), etc.).

Table 2. Identified themes, codes and categories.

Framework Themes and Codes	Categories	Freq.
Sustainability in Michelin-Starred Restaurants		
<i>Environmental dimension</i>	Product utilization	6/9
	Unit integration	5/9
	Product seasonality	2/9
	Food waste	2/9
	Packaging	2/9
	Use of renewable energies	2/9
<i>Social dimension</i>	Education of stakeholders	4/9
	Feedback from guest/employees	2/9
	Equitable pay and treatment	2/9
<i>Economic dimension</i>	Resource utilization planning	3/9
	Cross-department calculations	1/9
	Waste disposal costs	2/9

Table 2. Cont.

Framework Themes and Codes	Categories	Freq.
<i>Cultural dimension</i>	Cultural asset of cooking	1/9
	Quality culture impact	2/9
	Embedded in all dimensions	1/9
<i>Sustainability motivations</i>	Image	5/9
	Reputation	2/9
	Expectations of stakeholders	5/9
	Personal conviction	4/9
	Sustainable practices' impact on product	3/9
Leadership in Michelin-Starred Restaurants		
<i>Leadership style</i>	Cooperativity and amicable	5/9
	Appreciation	4/9
	Rigor	4/9
	Discipline	3/9
	Open-minded	2/9
	Honest communication	2/9
<i>Modern leadership philosophy</i>	Common vision/joint targets	8/9
	Employee objective flexibility	5/9
	Innovation "culture of errors"	5/9
	"Team spirit" creativity	5/9
	Scheduled "innovation days"	3/9
	Innovative culture/leadership = improved performance	6/9
<i>Sustainable leadership</i>	Role models in practice	7/9
	Facilitating ethical values	5/9
	Being authentic in sustainable actions	4/9
Innovation in Michelin-Starred Restaurants		
<i>Innovation definitions</i>	New products	
	New compositions on the guest's plate	3/9
	New interpretation of classical dishes	4/9
	New cooking methods	3/9
	New techniques	3/9
	All areas of a restaurant	2/9
	Arouse positive emotions, a pleasant feeling, and an	3/9
	exciting dining experience	3/9
<i>Sources of innovative ideas</i>	Leader–employee collaboration	3/9
	Exchange with external colleagues or producers	5/9
	Traveling	5/9
	Dining out	4/9
	Social media	5/9
	Nature	2/9
	Experimentation and evolution of initial ideas	3/9
Linkage between Sustainability, Leadership and Innovation		
<i>Innovative leadership</i>	Leadership style fosters innovative motivation	9/9
	Positive climate increased creativity	6/9
	Impacts employee satisfaction	5/9
	Improves employee–company identity	2/9

Table 2. Cont.

Framework Themes and Codes	Categories	Freq.
<i>Sustainability and leadership</i>	Ensures long-term employee loyalty	4/9
	Sustainable products drive innovation	2/9
	Innovative products/solutions impact protection of the environment	2/9
<i>Sustainability and innovation</i>	Conflicting interests between sustainability and innovation	5/9
	Financial profitability difficult in sustainable haute cuisine	4/9
	Difficult to assure quality of sustainable products	4/9
	Higher workload from sustainable practices/products	2/9
Sustainable innovation capability		
<i>Critical factors/practices</i>	Meeting/exceeding expectations of stakeholders for successful innovation	5/9
	Long-term planning critical	4/9
	Cautious and intelligent gradual changes	4/9
	Continuous innovation progress	3/9
<i>For competitive advantage</i>	Brand loyalty and consistency of the restaurant's concept	9/9
	Knowledge of the customer base/needs	8/9
	Sustainable practices	4/9
	High quality standards	4/9
	Classical cooking signature with focus on traditional ingredients/practices	4/9
	Combination of classical and innovative Cuisine	2/9

4. Results

The results section reviews the most significant issues that emerged from the qualitative study to provide insight into the essence of sustainability, leadership and innovation in Michelin-starred cuisine. The findings are the outcome of the analysis of the semi-structured interviews described above. Exemplary statements made by interviewees are enclosed in quotation marks. These statements are shown to both provide a rich description of the insights as well as to inform readers of additional statements of interest (in some cases where these are a minority view). Information on the proportional number of participants endorsing or discussing a stated result of the study is shown where appropriate (also shown in Table 2).

4.1. Sustainability in Michelin-Starred Restaurants

In general, the study revealed that the primary focus of Michelin-starred chefs is on the environmental pillar of sustainability. In response to questions about defining sustainability and sustainable practices in their business and how they integrate them into their daily operations, all chefs primarily addressed environmental aspects. The majority of the sample stated that supply routes and supply chains are of utmost importance to them. Participants assigned value to regionality and the protection of species. As one chef stated: “The very best product is the one that finds the quickest way into the kitchen”. Another aspect that was frequently mentioned (6/9) was the utilization of the entire product, rather than just the “best parts”, especially with regard to animal products, which is commonly known as the “from-nose-to-tail” principle [86]. Five of nine interviewees pointed out that it is only feasible to realize the integral use of food combined with other restaurants belonging to the hotel in which the Michelin-starred restaurant is located. Less frequent ecological issues include the seasonality of products, less food waste, packaging, and the usage of renewable energies, with two out of nine responses each.

While the social dimension of sustainability was not clearly articulated, it appeared that the participants tended to pay it more subconscious consideration. A recurrent area of focus was the education of stakeholders (4/9) to draw their awareness to the topic of sustainability (6/9). Two chefs added that they appreciate feedback from guests and employees. Two respondents stated that the equitable and appropriate payment of their employees is important to them.

In practice, the economic side of sustainability was reflected in proper calculations by Michelin-starred chefs. The key elements for financial success articulated were resource utilization planning (3/9) and cross-calculations with other departments (when the restaurant was part of a hotel) (1/9). Moreover, green practices, such as less packaging or eliminating food waste, were also described as beneficial, as they lead to lower waste disposal costs.

With respect to the fourth pillar of sustainability (cultural), respondents agreed that it has relevance in haute cuisine. One respondent stressed that cooking counts as a “cultural asset”, whilst another claimed that the cultural dimension inevitably entails the other three dimensions. Two out of nine chefs indicated that the cultural heritage of cooking shapes the quality consciousness of employees, passing it on across generations.

There was no consensus on the importance level of the four dimensions of sustainability in the Michelin-starred restaurant context (i.e., whether they are of equal importance or whether the emphasis is greater for a particular one). Although the respondents generally agreed that none of the pillars ought to be completely excluded, only two out of nine participants granted them equal priority. The other chefs identified the focus as being on one of the dimensions, with the largest proportion naming the environmental aspect (3/9), while only one ranked financial sustainability as the most pertinent.

The reasons for sustainable practices were diverse. However, the interviewees’ feedback indicated that image (5/9), along with meeting the expectations of all stakeholders (5/9), were the most widespread motivations. About 44% of the sample (4/9) indicated that their personal conviction drives green practices. An incentive was the benefit arising from sustainable practices regarding product quality. As respondents pointed out, regional purchasing allows for improved communication with suppliers and thus enables greater quality assurance. In addition, products can be provided more quickly and at shorter notice due to regionality, leading to cost savings. Interestingly, the interviews clearly confirmed that being recognized by the Michelin Guide for sustainability does not encourage them to pursue a sustainable strategy. Even though three out of nine respondents acknowledged the rising interest of the guide, the majority (5/9) described the attempts to award sustainable restaurants as hypocrisy. One chef stated: “Restaurant guides are profit centers that establish a sham world supported by the media”. The greatest criticism is that neither supply routes nor supply chains can be monitored by the reviewers of the Michelin Guide, whereas that is exactly what “real” sustainability in restaurants depends on.

4.2. Leadership in Michelin-Starred Restaurants

Participants characterized their respective leadership styles using various terms. Overall, the study clearly points out that the concept of leadership in high-end cuisine has changed significantly over the last few decades. The chefs were in consensus that the authoritarian and strict regime of the past generation of culinary leaders is no longer appropriate. The most relevant keywords that were mentioned by the participants and that capture their leadership style include cooperativity (5/9), appreciation (4/9), rigor (4/9) and discipline (3/9). Amicable, open-minded, and honest communication was likewise deemed an essential component. The interviews identified that a balance between strictness and esteem is the most effective approach to achieving a favorable working climate in the kitchen.

As leadership philosophy has changed over time, IL has entered the field of Michelin-starred gastronomy. Eight out of nine respondents stressed that a common vision and joint targets constitute the basis for business success. Apart from some general guidelines, five out of nine chefs give their employees room to maneuver in terms of implementing the

defined objectives. Another innovation-promoting aspect shown in the study was that the majority of respondents allow and actually demand errors. Four participants explained that they continuously refine innovations according to the “trial and error” method in order to make them marketable. The idea of a “culture of errors” is associated with this approach. The sample concurred that “team spirit”, as one participant aptly summed it up, in the kitchen team is indispensable for creativity, new ideas and a favorable working climate. Three of the Michelin-starred chefs regularly schedule “innovation days” to promote and implement creative ideas that ultimately result in innovations. For example, in one restaurant, each employee is expected to design and present a new dish of his or her choice each week, and to present it to the entire team. Subsequently, promising concepts are jointly optimized. Aside from its positive effect on employee motivation, all participants mentioned several other benefits of IL. The majority of chefs (6/9) identified an improved performance of their personnel due to an innovative culture, and emphasized that IL enables their employees to be a relief for them, as they grasp the nature of the business. One participant stressed: “My employees are the outsourcing of my thoughts, my actions and my creativity”. Furthermore, the involvement of all employees leads to new perspectives, thereby avoiding “tunnel vision”. Ultimately, IL makes innovation outcomes better and “more multifaceted”. Employees enrich haute cuisine with new perspectives, experiences and ideas, thereby driving innovative activities.

SL is practiced by Michelin-starred chefs, primarily by acting as role models (7/9). Interviewees emphasized the teaching of ethical values, both in interpersonal interaction (5/9) and in the responsible treatment of foodstuffs (5/9).

4.3. Innovation in Michelin-Starred Restaurants

The concept of innovation by the Michelin-starred chefs in the sample differed considerably, indicating that, in practice, a universal definition of innovation was difficult to capture. In general, participants defined innovations as (1) product-related novelties, (2) new products in general, (3) new compositions on the guest’s plate, (4) a new interpretation of classical dishes, or (5) new cooking methods and techniques.

Two fundamentally different definitions of innovation in Michelin-starred restaurants were articulated. In the context of haute cuisine, innovation incorporates all areas of a restaurant, such as new dishes, but also service or the interior, and accordingly requires new concepts to be holistically implemented (3/9). For instance, several chefs mentioned a digital wine list, a beer instead of wine accompaniment to the menu, or new tableware as innovative approaches. One respondent commented: “The key feature of culinary innovation is to arouse positive emotions among guests and offer them a pleasant feeling as well as an exciting dining experience”. The second conceptualization of innovation centered on employees, pointing to a new leadership style in Michelin-starred cuisine (reported by three out of nine respondents). One chef stressed that innovation in the hospitality industry describes “a fundamental reorientation in professional education”.

Innovation was articulated as an integral part of haute cuisine—“as variety is the essence of life”. One popular source of innovative ideas indicated by the participants is the exchange with colleagues or producers. Traveling (5/9) and eating out (4/9) serve as further inspirations. According to the chefs, social media also stimulates creativity in the current environment. A less common source of inspiration (2/9) is nature. Three of the interviewees indicated the need to experiment with and evolve initial ideas.

4.4. The Linkage between Sustainability, Leadership and Innovation in Michelin-Starred Restaurants

Figure 1 provides a framework for the proposed connections of leadership, innovation and sustainability, as well as external and internal factors shown in previous research [15,24,37,39,45]. The section below outlines the similarities and contrasts in these relationships in the context of Michelin-starred restaurants.

Based on the interviews, sustainable innovation capability remains at the core of the model. The three primary terms were shown to be important in this context. The

fourth, cultural dimension of sustainability was added, as it was identified as important in Michelin-starred cuisine and service. The internal and external variables that were articulated by the respondents as key factors included market demand, stakeholders and guest structure (external to the firm), as well as business vision, brand loyalty, working climate, and employees (internal to the firm).

The study findings demonstrate that, in the Michelin-starred context, the strongest interconnection exists between the concepts of leadership and innovation. All participants stressed that their leadership style fosters the motivation of their employees to engage in innovative action. Additionally, the majority (6/9) of chefs pointed out that a positive working climate results in increased creativity of their staff. Moreover, the interviews revealed that an innovative leadership style is beneficial to employee satisfaction (5/9), and people are more likely to identify with the company (2/9). These statements by the participants point to the linkage between sustainability and leadership. Four out of nine respondents highlighted that a sustainable leadership style ensures long-term employee loyalty, whereby the tacit knowledge of the team members is also available to the company. Employee loyalty strengthens the restaurant's innovative capability in the long run. One chef explained: "Nowadays, long-term employee retention is absolutely critical. There has been a change in the hospitality industry compared to earlier times. In the past, there were many interested employees for very limited positions, but today it's exactly the other way around".

Additionally, the terms sustainability and innovation appeared interconnected; sustainable products drive innovation in haute cuisine and serve as a new source of inspiration for new product development. Moreover, there is a trend towards a sustainable eating culture, especially among the younger generation. Chefs are required to create innovations that lead to improved protection of the environment (2/9), and accompany these new values in order to meet the ensuing market demand.

The study uncovered a number of conflicting interests in the relationship between sustainability and innovation. Michelin-starred chefs are concerned about the expectations of guests regarding restaurants that are ranked in the Michelin Guide. Sustainable products can lack the taste experience that many guests expect from haute cuisine. Rather, Michelin-starred restaurants are closely tied to luxury products, such as foie gras, caviar or beef fillet, which definitely contradict the idea of sustainability in terms of food. The interviewees noted that their guests are rarely willing to pay the justified premium for sustainable products or a sustainable restaurant concept. Ultimately, this contradiction causes profitability challenges when trying to achieve sustainable haute cuisine (4/9 respondents). In addition to quality and price sensitivity issues, respondents frequently mentioned insufficient quantities for sustainable product innovations during procurement. Chefs described difficulties in assuring the compliance of sustainable products with high quality standards (4/9), the dependence on suppliers, and the higher workload resulting from sustainable practices and products (2/9). The study revealed that there is a certain dissatisfaction regarding the lack of sustainability standards monitoring in the gastronomy sector. As chefs pointed out: "The issue is neglected by institutions", "politicians must provide clear regulations and criteria as a guideline for sustainable practices, otherwise the concept of sustainability is exploited", and "societal problems in terms of sustainable practices are much more substantial. Sustainability in haute cuisine cannot be improved by chefs alone; at the same time, it requires a shift in the mindset of society".

Finally, the combined impact of these concepts described above and shown in Figure 1 contributes to sustainable innovation capability. Several additional critical factors emerged during the Michelin-starred interviews. Respondents emphasized the importance of meeting or exceeding the expectations of stakeholders for successful innovation management. Long-term planning was also identified as a critical success factor. In this respect, two key issues became apparent: (1) four out of nine interviewees highlighted that "cautious and intelligent" gradual changes are the only effective way to successfully implement innovations; (2) chefs (3/9) explained that continuous progress is a prerequisite

for economic efficiency in the long run. Respondents also supported the importance of IL as a central driver of innovation capability and success. As one of respondent claimed: “A favorable personnel structure is crucial for the long-term and sustainable growth of a business”. Another added: “Innovative employees are the basic prerequisite for success in Michelin-starred gastronomy”. With regard to stakeholders, another important issue that was identified in the interviews is the consideration of the guest structure and the corresponding preferences. As one of the participants summarized: “It is vital to identify guests structurally, considering the frequency of visits and the origin of the clientele”.

The findings also captured critical elements for gaining a competitive advantage in a high-end cuisine context. By far, the most important success factors mentioned were brand loyalty and consistency of the restaurant’s concept. As one Michelin-starred chef explained: “The essence is the development of a unique signature and cooking style that is recognizable to guests, making a detour to visit the restaurant worthwhile”. Another interviewee highlighted: “Brand awareness requires 100% quality in all areas of a restaurant”. In the area of the guest structure for effective innovation management, knowledge of the customer base was also considered to be an indispensable part of competitiveness (8/9). Opinions of Michelin-starred chefs on competitive edge in haute cuisine varied considerably beyond these areas. According to some participants, sustainable practices (4/9) as well as high quality standards (4/9) should be assured for a good market performance. Four out of nine chefs suggested that a classical cooking signature with focus on traditional ingredients and practices is most promising. Two interviewees stated that a combination of classical and innovative cuisine drives their competitive advantage. Even though the sample generally acknowledged the importance of innovative and creative thinking for its business, the notion of “innovation” seemed to occupy a subordinate role for Michelin-starred chefs. They frequently described the term innovation as being overused in their industry in recent years and currently perceive little potential in it. A rationale might be the association of innovation with molecular gastronomy, solely new-to-the-world ideas, etc., rather than more incremental innovation approaches.

5. Discussion

In this qualitative study, the concepts of sustainability, leadership and innovation, and their linkages, were investigated in the context of Michelin-starred restaurants. Semi-structured interviews with Michelin-starred chefs in Germany were conducted to identify crucial issues and relationships related to the approaches to sustainability, leadership, and innovation. The findings revealed commonalities and differences compared to the existing literature, as discussed in more detail below.

Sustainability. The findings supported the literature in that there is no universal definition of sustainability in the culinary industry [14]. While perceptions found by the National Restaurant Association [22] were similar to those in this study, the findings indicate sustainability will likely be a key driver of competitiveness in the future, but the issue is still receiving limited attention from Michelin-starred chefs. This finding, in large part, is due to the perception that customers in haute cuisine settings are not paying sufficient attention to the issue of sustainability, according to the experience of the interviewed chefs. This could be due to the average age of the majority of their clientele (older), with more emphasis on sustainability issues by younger and more cosmopolitan consumers. In the current setting, most consumers are not willing to pay a premium for sustainable products or practices in Michelin-starred restaurants; thus, in contrast to other segments [23], little pressure from stakeholders to integrate sustainability into their concept is present.

Additionally, in contrast to restaurants whose customers’ primary focus is on environmentally sustainable practices [22], respondents in this study agreed with the literature [23] that sustainability concerns include issues beyond the ecological component, with a strong orientation towards environmental protection and the proper use of resources. All four pillars of sustainability were viewed as applicable in practice. A noteworthy insight in the

Michelin-starred setting is that chefs are becoming increasingly aware of the social and cultural dimensions of sustainability, which is in line with the literature [1]. The importance of the cultural heritage of haute cuisine and the high value of communication (storytelling) were also stressed as crucial.

In contrast to earlier studies [32], the economic dimension of sustainability was identified due to the feasibility of green practices with regard to sustainable financial performance. Ultimately, the main benefits of a commitment to sustainability were seen as the satisfaction of (future) market needs and the long-lasting innovation potential with the inclusion of green and responsible practices.

Leadership. In contrast to the armchair view of chefs lacking leadership skills, a consistent understanding of leadership and its impact prevailed in the Michelin-starred gastronomy setting. Many respondents indicated that the concept of leadership in haute cuisine has changed substantially in recent years, and traditional management approaches (including steep hierarchies and authoritarian behavior) [4] have been replaced with more contemporary responsibilities of a culinary leader, such as the establishment of a common vision and a corporate purpose.

As the literature indicates [87], and this study supported, a pioneering chef is inevitably also a charismatic and inspiring leader with a culinary leadership style strongly affecting the overall restaurant's performance. In practice, an effective leader drives the skills and productivity of employees, which in the case of Michelin-starred restaurants entails an enhanced innovation capability driving market performance. Contrary to findings in other contexts [34], the notion of a sustainable leader is primarily associated with its employees (social pillar focused), leading to increased employee satisfaction and lower turnover.

Innovative leadership was seen as a key concept in Michelin-starred gastronomy using an approach that integrates a variety of stakeholders (suppliers, customers, and employees) in the innovation management of Michelin-starred chefs. This supports Zuraik and Kelly's [43] findings that a supporting and positive working climate is favorable for innovation outcomes within haute cuisine. Other key contributors to innovation performance in the culinary industry derived from the interviews included a "culture of embracing errors", teamwork, and a trial-and-error process for the implementation of creative ideas. Lastly, the study findings support the concept that innovative employees are one of the most valuable resources of a business [4], and that leadership has a direct impact on the innovation capability [39].

Michelin-starred chefs' comprehension of innovation in the culinary industry covers a wide scope, from more sophisticated dishes and new-to-the-world products to a novel service design, innovative restaurant concepts, and an entirely new leadership style. A key consensus derived was that innovations in all areas need to be of superior quality, address the needs of guests, and deliver an unprecedented dining experience.

Sustainability, Leadership and Innovation Linkage. The present study provides evidence that the three concepts of sustainability, leadership and innovation are interrelated in haute cuisine settings. However, as described above, sustainability currently serves as a relatively minor factor in comparison to leadership and innovation demands. In combination, these three dimensions were described as driving sustainable innovation capability and long-term business success in the culinary industry. The Michelin-starred chefs suggested some specific internal and external factors as key in an haute cuisine context. Externally, the focus tends to be less on the competition and more on remaining true to one's own style, and creating value based on esteem and brand knowledge of the establishment. The "people" component was highlighted as key for Michelin-starred restaurants, emphasizing stakeholders, especially customers, as external variables. Internally, the focus here is placed on the employees. Finally, brand loyalty was seen as an important factor, with creating a common business vision as the highest priority for success.

6. Implications

6.1. Theoretical Implications

The majority of research on sustainability in the hospitality literature approaches the topic from one dimension (environmental impact practices). However, as supported in this study, sustainability is a multi-dimensional construct whose multiple facets must all be addressed in order to act in a holistically sustainable manner. Figure 1 points to the interrelationship and holistic nature of sustainability using the four pillars of environmental, economic, social and cultural.

In addition, there has been little research on sustainable practices in the haute cuisine and Michelin-starred levels of the industry. Given that Michelin-starred restaurants are considered trendsetters and their practices have a tendency to trickle down to the entire culinary industry [20], it is valuable to consider these relationships in this context, as well as to consider how these findings are likely to be played out in additional “downstream” contexts in the future.

For haute cuisine firms to develop a sustainable innovation capability that applies to the four pillars, leaders need to have sustainable leadership skills and innovative leadership abilities, and must value sustainable innovation to set the stage for firm sustainable innovation capability. Additionally, a sustainable innovation capability framework should include key aspects such as the ability to identify market demand—requiring a need to assess timing (consumers ready to accept the sustainable innovation), perceived value, and consumer needs, as well as considering the context. For instance, more visible pressure for environmental and social sustainability appears evident in the quick service restaurant sector, as this sector is viewed as creating excessive waste (disposal cups, straws, Styrofoam, etc.), as well as having negative social impacts, such as low pay, a lack of benefits, etc. A second apparent external key ingredient for sustainable innovation capability is tied to the ability to collaborate with a variety of stakeholders, which can be a bundle of external partners, to impact sustainable practices and innovation capability. Internally, key attributes or constructs needed for a framework in this sector include the well-defined vision and goals of the firm, strong brand loyalty for greater willingness to experience innovations, and engaged employees who possess sufficient creativity, abilities to identify problems or needs, as well as the ultimate ability to implement sustainable innovations across the firm.

In summary, the results support a theoretical framework of factors that drive sustainable innovation capability. First, context matters; this includes both the industry sector in question and whether or not the innovation is timed with the needs and values of consumers. Leaders in organizations that facilitate sustainable innovation capabilities need to have skills or attributes that project a leadership style that positively impacts innovative capabilities, promotes a holistic understanding of the four sustainability pillars, and is open to feedback from those closest to the action on values and needs of customers, as well as having the ability to work with a variety of stakeholders to facilitate innovation in general, and to find creative ways to utilize a push strategy for sustainable practices.

6.2. Managerial Implications

In practice, the study findings yield several important implications regarding sustainable innovation management in Michelin-starred restaurants. Firstly, it is essential for high-end chefs to engage in effective communication, not only with guests, but also with all stakeholders, to sensitize them to sustainability concerns. It was shown that options for the efficient integration of sustainable practices in high-end cuisine operations significantly depend on customer acceptance and are affected by their expectations. For example, comprehensive and transparent marketing campaigns that convey the benefits of a sustainable restaurant concept to all stakeholders are useful for this purpose. In this way, the common expectations of customers regarding Michelin-starred restaurants can be adjusted, whereby guests become willing to pay reasonable prices that make a sustainable concept feasible. Additionally, Michelin-starred restaurants should elaborate and disclose their sustainability strategy in detail to build trust with their stakeholders to ensure that their practices are

not being linked to greenwashing. Here, cultural culinary sustainability values may be supportive, as they are a core variable for sustainable development in the culinary industry.

The insights of the Michelin-starred chefs have made it apparent that the achievability of many sustainable practices is largely dependent on suppliers. All suppliers should therefore be included in the first step of the external communication of any sustainability issue at the restaurants (i.e., all pillars). Michelin-starred chefs should also integrate their suppliers into strategic choices for sustainable innovation management. Thus, the innovation capability can be increased by external stimuli, and at the same time, the implementability of innovations can be facilitated by the expertise of the suppliers.

Another important implication is that IL ultimately improves the financial performance and market success of haute cuisine restaurants. Consequently, leaders should continue to strengthen their skills in this area to foster the creativity of their employees. Successful firms should include advanced training in IL practices for chefs (and other leaders) to keep employees creative, passionate, and engaged. Similarly, sustainable leadership (SL) skills should also be promoted, where IL and SL tacit skills in combination are likely to lead to long-term employee engagement with a restaurant, which is vital for its sustainable development and long-term success.

Finally, as found in this study and supported in earlier studies [59,61], a key managerial implication is that chefs should more consciously acknowledge innovation management as a leadership task. The interviews clearly confirmed that there is a need for a high level of creativity and innovation in order to enhance the potential success of Michelin-starred restaurants. While respondents suggested that the approach to innovation tends to be intuitive rather than strategic, this point of view seems to be more aligned with concepts of creativity than a more strategic notion of innovation management. While creativity and innovation management appear intertwined in this context, this relationship has been suggested earlier, whereby successful culinary innovation only exists when a creative idea is effectively implemented in practice [63]. The value creation associated with this process [87] requires diligent and continuous innovation management by Michelin-starred chefs in order to reduce the rate of failure and maximize learning from less successful innovations [13,61].

In the study, it was apparent that the managerial focus in haute cuisine should not solely focus on innovative activities. Instead, leadership activities should also facilitate a sustainable innovation capability as an organizational tacit skill; when this tacit ability is paired with a coherent and differentiated concept, these two aspects form drivers of brand recognition for a reputation of outstanding quality and uniqueness as well as the potential for competitive advantage in the high-end gastronomy sector.

7. Conclusions

This study revealed that in the high-end hospitality sector, there remains great potential for improvement in terms of holistic sustainable practices and innovative approaches to address them. As sustainability is an increasingly critical concern in the business world [1] and the growth of the hospitality industry has had serious environmental impacts [88], it is imperative to shift the focus of the clientele of Michelin-starred restaurants and of legislators to sustainability issues in haute cuisine.

As Salzberg, Gough and Suen [34] stated, and this study supported, the lack of implementation of environmental sustainability innovations in the Michelin-star context and the hospitality industry in general is in part due to the lack of sustainability regulations as a whole. Programs that promote awareness-raising in haute cuisine stakeholders in combination with government incentives are needed to ensure that environmental, social and cultural sustainability innovations proliferate and are themselves sustainable (economic).

The results of this study confirm earlier findings supporting the ever-increasing relevance of innovation leadership. In line with Koziol-Nadolna [4] and Shah et al. [6], Michelin-starred chefs consider an innovative leadership style to be the core competence for a competitive advantage, as it enhances the performance of the employees, and thus

the market performance of the restaurant. However, it is essential to always align IL with the needs of the customers [4] to satisfy them. Additionally, the interview results contribute to the emerging influence of soft leadership skills on innovation management in Michelin-starred restaurants [4].

The overarching purpose of this article was to address an existing literature gap by investigating the impact of sustainability and leadership on the innovation management of Michelin-starred chefs. First, a key contribution is made by linking and interconnecting the three leadership concepts in an integrated theoretical model that also incorporates internal and external determinants. Since the nature of innovation is complex and diverse [51] and studies of this issues in the culinary industry are rather limited [21], the highlighted integrative framework for sustainable innovation capability may help chefs to implement a thorough and sustainable innovation management process. Thus, successful strategic innovation management in Michelin-starred gastronomy may benefit both the environment and the business.

However, this article is not devoid of limitations. The first and primary limitation of the presented study is its relatively small sample size. While the qualitative interviews did provide a richer understanding of leadership thoughts, innovation processes and culture, future research should extend this research to additional regions and sectors as, well as a broader range of stakeholders, due to the described need for their involvement. Given the focus of this study in the context of Michelin-starred chefs in Germany, any generalizability has substantial limitations.

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References

1. Cantele, S.; Cassia, F. Sustainability implementation in restaurants: A comprehensive model of drivers, barriers, and competitiveness-mediated effects on firm performance. *Int. J. Hosp. Manag.* **2020**, *87*, 102510. [\[CrossRef\]](#)
2. Baumgartner, R.J.; Rauter, R. Strategic perspectives of corporate sustainability management to develop a sustainable organization. *J. Clean. Prod.* **2017**, *140*, 81–92. [\[CrossRef\]](#)
3. Bansal, P.; Song, H.C. Similar but not the same: Differentiating corporate sustainability from corporate responsibility. *Acad. Manag. Ann.* **2017**, *11*, 105–149. [\[CrossRef\]](#)
4. Koziol-Nadolna, K. The Role of a Leader in Stimulating Innovation in an Organization. *Adm. Sci.* **2020**, *10*, 59. [\[CrossRef\]](#)
5. Northouse, P.G. *Leadership: Theory and Practice*, 4th ed.; Sage Publications Ltd.: Thousand Oaks, CA, USA, 2006.
6. Shah, S.H.A.; Sultana, A.; Gul, A.; Sajjas, S.; Basit, A.; Qadir, A. Transformational Leadership Influence on Innovation Directly and Indirectly through Affective Commitment in Hotel Industry of Malaysia. *Int. Rev. Manag. Mark.* **2020**, *10*, 22–28. [\[CrossRef\]](#)
7. Eddleston, K.A.; Kellermanns, F.W.; Sarathy, R. Resource Configuration in Family Firms: Linking Resources, Strategic Planning and Technological Opportunities to Performance. *J. Manag. Stud.* **2007**, *45*, 26–50. [\[CrossRef\]](#)
8. Abbas, G.; Iqbal, J.; Waheed, A.; Naveed Riaz, M. Relationship between Transformational Leadership Style and Innovative Work Behavior in Educational Institutions. *J. Behav. Sci.* **2012**, *22*, 18–32.
9. Bass, B.M.; Avolio, B.J.; Jung, D.I.; Berson, Y. Predicting unit performance by assessing transformational and transactional leadership. *J. Appl. Psychol.* **2003**, *88*, 207–218. [\[CrossRef\]](#)
10. Teece, D.J. Business Models, Business Strategy and Innovation. *Long Range Plan.* **2010**, *43*, 172–194. [\[CrossRef\]](#)
11. Chrisman, J.J.; Chua, J.H.; De Massis, A.; Frattini, F.; Wright, M. The Ability and Willingness Paradox in Family Firm Innovation. *J. Prod. Innov. Manag.* **2015**, *32*, 310–318. [\[CrossRef\]](#)

12. Formisano, V.; Quattrociochi, B.; Fedele, M.; Calabrese, M. From Viability to Sustainability: The Contribution of the Viable Systems Approach (VSA). *Sustainability* **2018**, *10*, 725. [CrossRef]
13. Harrington, R.J. The Culinary Innovation Process—A Barrier to Imitation. *J. Foodserv. Bus. Res.* **2004**, *7*, 35–57. [CrossRef]
14. Purvis, B.; Mao, Y.; Robinson, D. Three pillars of sustainability: In search of conceptual origins. *Sustain. Sci.* **2019**, *14*, 681–695. [CrossRef]
15. De Hoogh, A.H.B.; Den Hartog, D.N. Ethical and despotic leadership, relationships with leader's social responsibility, top management team effectiveness and subordinates' optimism: A multi-method study. *Leadersh. Q.* **2008**, *19*, 297–311. [CrossRef]
16. Mitchell, R.K.; Busenitz, L.W.; Bird, B.; Gaglio, C.M.; McMullen, J.S.; Morse, E.A.; Smith, J.B. The Central Question in Entrepreneurial Cognition Research 2007. *Entrep. Theory Pract.* **2007**, *31*, 1–27. [CrossRef]
17. Ángel, P.O.; Sánchez, L.S. R&D managers' adaptation of firms' HRM practices. *R&D Manag.* **2009**, *39*, 271–290. [CrossRef]
18. Jaaffar, A.R.; Baharom, N.; Ali, J.; Zaini, A.F. Innovation practices among Malaysian University students toward business venture. *Acad. Entrep. J.* **2018**, *24*, 1528–2686.
19. Stock, T.; Obenaus, M.; Slaymaker, A.; Seliger, G. A Model for the Development of Sustainable Innovations for the Early Phase of the Innovation Process. *Procedia Manuf.* **2017**, *8*, 215–222. [CrossRef]
20. Surlemont, B.; Johnson, C. The role of guides in artistic industries—The Special Case of the 'Star System' in the Haute-Cuisine Sector. *Manag. Serv. Qual. Int. J.* **2005**, *15*, 577–590. [CrossRef]
21. Lane, C. The Michelin-Starred Restaurant Sector as a Cultural Industry: A cross-national comparison of restaurants in the UK and Germany. *Food, Cult. Soc.* **2010**, *13*, 493–519. [CrossRef]
22. National Restaurant Association. The State of Restaurant Sustainability. 2018. Available online: https://restaurant.org/downloads/pdfs/sustainability/restaurant_sustainability_research_report_2018 (accessed on 7 March 2021).
23. Pérez, A.; Rodríguez-Del-Bosque, I. Sustainable development and stakeholder relations management: Exploring sustainability reporting in the hospitality industry from a SD-SRM approach. *Int. J. Hosp. Manag.* **2014**, *42*, 174–187. [CrossRef]
24. Holcomb, J.L.; Upchurch, R.S.; Okumus, F. Corporate social responsibility: What are top hotel companies reporting? *Int. J. Contemp. Hosp. Manag.* **2007**, *19*, 461–475. [CrossRef]
25. Dyllick, T.; Hockerts, K. Beyond the business case for corporate sustainability. *Bus. Strategy Environ.* **2002**, *11*, 130–141. [CrossRef]
26. Jang, Y.J.; Kim, W.G.; Lee, H.Y. Coffee shop consumers' emotional attachment and loyalty to green stores: The moderating role of green consciousness. *Int. J. Hosp. Manag.* **2015**, *44*, 146–156. [CrossRef]
27. Park, J.; Kim, H.J. Environmental proactivity of hotel operations: Antecedents and the moderating effect of ownership type. *Int. J. Hosp. Manag.* **2014**, *37*, 1–10. [CrossRef]
28. MacKerron, C.B.; Hoover, D. Waste and Opportunity 2015: Environmental Progress and Challenges in Food, Beverage, and Consumer Goods Packaging. 2015. Available online: <https://www.nrdc.org/sites/default/files/consumer-goods-packaging-report.pdf> (accessed on 7 March 2021).
29. Sofuoglu, S.C.; Toprak, M.; Inal, F.; Cimrin, A.H. Indoor air quality in a restaurant kitchen using margarine for deep-frying. *Environ. Sci. Pollut. Res.* **2015**, *22*, 15703–15711. [CrossRef]
30. Filimonau, V.; Lemmer, C.; Marshall, D.; Bejjani, G. 'Nudging' as an architect of more responsible consumer choice in food service provision: The role of restaurant menu design. *J. Clean. Prod.* **2017**, *144*, 161–170. [CrossRef]
31. Baldwin, C.; Wilberforce, N.; Kapur, A. Restaurant and food service life cycle assessment and development of a sustainability standard. *Int. J. Life Cycle Assess.* **2011**, *16*, 40–49. [CrossRef]
32. Perramon, J.; del Mar Alonso-Almeida, M.; Llach, J.; Bagur-Femenías, L. Green practices in restaurants: Impact on firm performance. *Oper. Manag. Res.* **2014**, *7*, 2–12. [CrossRef]
33. Chou, C.-J.; Chen, K.-S.; Wang, Y.-Y. Green practices in the restaurant industry from an innovation adoption perspective: Evidence from Taiwan. *Int. J. Hosp. Manag.* **2011**, *31*, 703–711. [CrossRef]
34. Salzberg, A.C.; Gough, M.Z.; Suen, I.-S. Sustainable innovation behavior in restaurants. *J. Foodserv. Bus. Res.* **2019**, *22*, 167–190. [CrossRef]
35. Kavanagh, M.H.; Ashkanasy, N.M. The Impact of Leadership and Change Management Strategy on Organizational Culture and Individual Acceptance of Change during a Merger. *Br. J. Manag.* **2006**, *17*, S81–S103. [CrossRef]
36. Epstein, M.J.; Buhovac, A.J. *Making Sustainability Work: Best Practices in Managing and Measuring Corporate Social, Environmental, and Economic Impacts*, 2nd ed.; Berret-Koehler Publishers Inc.: San Francisco, CA, USA, 2014.
37. Jang, Y.J.; Zheng, T.; Bosselman, R. Top managers' environmental values, leadership, and stakeholder engagement in promoting environmental sustainability in the restaurant industry. *Int. J. Hosp. Manag.* **2017**, *63*, 101–111. [CrossRef]
38. Pless, N.M.; Maak, T.; Stahl, G.K. Developing Responsible Global Leaders Through International Service-Learning Programs: The Ulysses Experience. *Acad. Manag. Learn. Educ.* **2011**, *10*, 237–260. [CrossRef]
39. Mantikei, B.; Usup, R.C.; Lelo, S.; Danes, J.N.; Meitiana. The Role of Responsible Leadership in Determining the Tri-ple-Bottom-Line Performance of the Indonesian Tourist Industry. *Contemp. Econ.* **2020**, *4*, 463–473. [CrossRef]
40. Ferdig, M.A. Sustainability Leadership: Co-creating a Sustainable Future. *J. Chang. Manag.* **2007**, *7*, 25–35. [CrossRef]
41. del Mar Alonso-Almeida, M.; Bagur-Femenías, L.; Llach, J.; Perramon, J. Sustainability in small tourist businesses: The link between initiatives and performance. *Curr. Issues Tour.* **2015**, *21*, 1–20. [CrossRef]
42. Gupta, V.; Singh, S. How leaders impact employee creativity: A study of Indian R&D laboratories. *Manag. Res. Rev.* **2013**, *36*, 66–88. [CrossRef]

43. Zuraik, A.; Kelly, L. The role of CEO transformational leadership and innovation climate in exploration and exploitation. *Eur. J. Innov. Manag.* **2019**, *22*, 84–104. [\[CrossRef\]](#)
44. Scott, S.G.; Bruce, R.A. Determinants of innovative behavior: A path model of individual innovation in the workplace. *Acad. Manag. J.* **1994**, *37*, 580–607. [\[CrossRef\]](#)
45. Ailin, M.; Lindgren, P. Conceptualizing Strategic Innovation Leadership for Competitive Survival and Excellence. *J. Knowl. Glob.* **2008**, *1*, 87–107.
46. Jansen, J.J.P.; Vera, D.; Crossan, M. Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism. *Leadersh. Q.* **2009**, *20*, 5–18. [\[CrossRef\]](#)
47. Nemanich, L.A.; Vera, D. Transformational leadership and ambidexterity in the context of an acquisition. *Leadersh. Q.* **2009**, *20*, 19–33. [\[CrossRef\]](#)
48. Thomas, D.A. Diversity as strategy. *Harv. Bus. Rev.* **2004**, *82*, 98. [\[PubMed\]](#)
49. Surie, G.; Hazy, J.K. Generative leadership: Nurturing innovation in complex systems. *E:CO* **2006**, *4*, 13–26.
50. Assink, M. Inhibitors of disruptive innovation capability: A conceptual model. *Eur. J. Innov. Manag.* **2006**, *9*, 215–233. [\[CrossRef\]](#)
51. Kogabayev, T.; Maziliauskas, A. The definition and classification of innovation. *Holistica* **2017**, *8*, 59–72. [\[CrossRef\]](#)
52. Schiederig, T.; Tietze, F.; Herstatt, C. Green innovation in technology and innovation management—An exploratory literature review. *R&D Manag.* **2012**, *42*, 180–192. [\[CrossRef\]](#)
53. Horbach, J. *Indicator Systems for Sustainable Innovation*; Physica-Verlag: Heidelberg, Germany, 2005.
54. Rennings, K. Redefining innovation—Eco-innovation research and the contribution from ecological economics. *Ecol. Econ.* **2000**, *32*, 319–332. [\[CrossRef\]](#)
55. OECD. Sustainable Manufacturing and Eco-Innovation: Framework, Practices and Measurement—Synthesis Report. 2009. Available online: <https://www.oecd.org/innovation/inno/43423689.pdf> (accessed on 16 March 2021).
56. Johnson, C.; Surlemont, B.; Nicod, P.; Revaz, F. Behind the Stars—A Concise Typology of Michelin Restaurants in Europe. *Cornell Hotel. Restaur. Adm. Q.* **2005**, *46*, 170–187. [\[CrossRef\]](#)
57. Kiatkawsin, K.; Sutherland, I. Examining Luxury Restaurant Dining Experience towards Sustainable Reputation of the Michelin Restaurant Guide. *Sustainability* **2020**, *12*, 2134. [\[CrossRef\]](#)
58. Chesbrough, H.; Spohrer, J. A research manifesto for services science. *Commun. ACM* **2006**, *49*, 35–40. [\[CrossRef\]](#)
59. Ottenbacher, M.; Gnoth, J. How to Develop Successful Hospitality Innovation. *Cornell Hotel. Restaur. Adm. Q.* **2005**, *46*, 205–222. [\[CrossRef\]](#)
60. den Hertog, P. Managing Service Innovation: Firm-Level Dynamic Capabilities and Policy Options. Ph.D. Thesis, Dialog Innovatie & Interactie, Utrecht, The Netherlands, 2010.
61. Ottenbacher, M.; Harrington, R.J. The innovation development process of Michelin-starred chefs. *Int. J. Contemp. Hosp. Manag.* **2007**, *19*, 444–460. [\[CrossRef\]](#)
62. Pilar Opazo, M. Discourse as driver of innovation in contemporary haute cuisine: The case of el Bulli restaurant. *Int. J. Gastron. Food Sci.* **2012**, *1*, 82–89. [\[CrossRef\]](#)
63. Baracska, Z.; Dörfler, V.; Velencei, J. Business Creativity: An Evolutionary Approach. In Proceedings of the AoM 2007: The Sixty-Seventh Annual Meeting of the Academy of Management, Philadelphia, PA, USA, 3–8 August 2007.
64. den Hertog, P.; Broersma, L.; Ark, B. On the Soft Side of Innovation: Services Innovation and its Policy Implications. *Economist* **2003**, *151*, 433–452.
65. Ojasalo, K. Business and Design Competences in Service Innovation and Development. *Bus. Rev.* **2009**, *13*, 216–222.
66. Verbarg, R. Leadership, Innovation, and Sustainability. In *Innovation for Sustainability—Business Transformations Towards a Better World*, 1st ed.; Bocken, N., Ritala, P., Albareda, L., Verbarg, R., Eds.; Springer Nature: Cham, Switzerland, 2019; pp. 117–133.
67. Rickards, T.; Moger, S. Creative Leaders: A Decade of Contributions from Creativity and Innovation Management Journal. *Creat. Innov. Manag.* **2006**, *15*, 4–18. [\[CrossRef\]](#)
68. Kaudela-Baum, S.; Holzer, J.; Kocher, P.Y. *Innovation Leadership—Führung Zwischen Freiheit und Norm*; Springer Gabler: Wiesbaden, Germany, 2014.
69. Nidumolu, R.; Prahalad, C.K.; Rangaswami, M.R. Why sustainability is now the key driver of innovation. *IEEE Eng. Manag. Rev.* **2013**, *41*, 30–37. [\[CrossRef\]](#)
70. Sarros, J.C.; Cooper, B.K.; Santora, J.C. Building a Climate for Innovation Through Transformational Leadership and Organizational Culture. *J. Leadersh. Organ. Stud.* **2008**, *15*, 145–158. [\[CrossRef\]](#)
71. Rosing, K.; Frese, M.; Bausch, A. Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *Leadersh. Q.* **2011**, *22*, 956–974. [\[CrossRef\]](#)
72. Jung, D.I.; Chow, C.; Wu, A. The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *Leadersh. Q.* **2003**, *14*, 525–544. [\[CrossRef\]](#)
73. Kalshoven, K.; Den Hartog, D.N.; De Hoogh, A.H. Ethical leadership at work questionnaire (ELW): Development and validation of a multidimensional measure. *Leadersh. Q.* **2011**, *22*, 51–69. [\[CrossRef\]](#)
74. Maak, T. Responsible Leadership, Stakeholder Engagement, and the Emergence of Social Capital. *J. Bus. Ethics* **2007**, *74*, 329–343. [\[CrossRef\]](#)
75. Le, Y.; Hollenhorst, S.; Harris, C.; McLaughlin, W. Environmental management: A Study of Vietnamese Hotels. *Ann. Tour. Res.* **2006**, *33*, 545–567. [\[CrossRef\]](#)

76. Hussain, F.; Chaudhry, M.N.; Batool, S.A. Assessment of key parameters in municipal solid waste management: A prerequisite for sustainability. *Int. J. Sustain. Dev. World Ecol.* **2014**, *21*, 519–525. [CrossRef]
77. Gu, W.; Wang, J.; Hua, X.; Liu, Z. Entrepreneurship and high-quality economic development: Based on the triple bottom line of sustainable development. *Int. Entrep. Manag. J.* **2021**, *17*, 1–27. [CrossRef]
78. Neumann, L.W. *Social Research Methods: Qualitative and Quantitative Approaches: International Edition*, 7th ed.; Pearson: New York, NY, USA, 2011.
79. Cassell, C. Creating the interviewer: Identity work in the management research process. *Qual. Res.* **2005**, *5*, 167–179. [CrossRef]
80. Brinkmann, S.; Kvale, S. *InterViews—Learning the Craft of Qualitative Research Interviewing*, 3rd ed.; Sage Publications Inc.: Thousand Oaks, CA, USA, 2014.
81. Michelin Guide. Alle Sternerestaurants—Guide MICHELIN Deutschland 2021. 2021. Available online: <https://guide.michelin.com/de/de/article/news-and-views/guide-michelin-2021-alle-sternerestaurants> (accessed on 7 March 2021).
82. Noble, H.; Smith, J. Issues of validity and reliability in qualitative research. *Évid. Based Nurs.* **2015**, *18*, 34–35. [CrossRef]
83. Locke, E.A. The Case for Inductive Theory Building. *J. Manag.* **2007**, *33*, 867–890. [CrossRef]
84. Seidel, J.; Kelle, U. Different functions of coding in the analysis of textual data. In *Computer-Aided Qualitative Data Analysis: Theory, Methods and Practice*, 1st ed.; Kelle, U., Ed.; Sage Publications Ltd.: London, UK, 1995; pp. 52–61.
85. Basit, T. Manual or electronic? The role of coding in qualitative data analysis. *Educ. Res.* **2003**, *45*, 143–154. [CrossRef]
86. Nitzko, S.; Spiller, A. Comparing “Leaf-to-Root”, “Nose-to-Tail” and Other Efficient Food Utilization Options from a Consumer Perspective. *Sustainability* **2019**, *11*, 4779. [CrossRef]
87. Stierand, M.; Dörfler, V.; Lynch, P. Haute Cuisine Innovations: The Role of the Master-Apprentice Relationship. In Proceedings of the BAM 2008, Harrogate, UK, 9–11 September 2008.
88. Martínez, P.; Pérez, A.; Del Bosque, I.R. Measuring Corporate Social Responsibility in tourism: Development and validation of an efficient measurement scale in the hospitality industry. *J. Travel Tour. Mark.* **2013**, *30*, 365–385. [CrossRef]