



The Food start-up scene in the metropolitan area of Munich

A comparison between 2020 and 2017

Julian Dei, Kerstin Dressel, Peter Eisner, Jutta Roosen, Hans Hauner

Abstract

In a systematic analysis of the start-up landscape in the food sector in the metropolitan area of Munich, a total of 51 "food start-ups" founded between 2014 and 2016 were identified in 2017. In 2020, a follow-up survey of the food start-ups at that time was conducted and additionally all start-ups founded between 2017 to 2019 were recorded. 61% of the start-ups in the first survey still existed in 2020. For the period 2017–2019, 41 new food start-ups were found. Compared to the first survey, the start-ups from 2017–2019 more often show business concepts based on digital services. In terms of food, it was also noticeable that there were more plant-based substitutes, fermented foods, and products with sustainability claims. As in 2014–2016, health aspects were of great importance to the start-ups. To encourage future start-ups in highlighting sustainability and health aspects, access of start-ups to publicly funded research institutions should be facilitated.

Keywords: food start-ups, founding, food trends, food industry, sustainability

Introduction

With more than 618,000 employees in over 6,100 companies, the food industry is one of the most important economic sectors in Germany [1]. Consumers in Germany can choose from around 170,000 different food products [2]. A rapidly growing number of these products are now being brought to market by food start-ups. Some new companies have already managed to establish themselves on the market and serve as role models for founders. However, it is largely unknown how many start-ups exist in the food sector as a whole and which product categories are particularly trendy among them at the moment. In particular, scientific studies on food start-ups have been hard to find.

A first food start-up analysis in the Munich region was conducted in 2017 by the competence cluster of nutrition research enabled with funding from the German Federal Ministry of Education and Research [3]. At that time, 51 new food start-ups were identified in the greater Munich area, which were founded in the period 2014–2016. It was noticed that mainly new nutrition trends were taken up and about 90% of the companies made health-related advertising claims for their products or services [3].

The aim of the current study was to determine how many of the start-ups at that time were able to develop stable business models by 2020 and how well these companies had developed economically. Another goal of the study was to conduct a further and more comprehensive analysis of all food start-ups founded between 2017 and 2019 for the same region, the greater Munich area.

Citation

Dei J, Dressel K, Eisner P, Roosen J, Hauner H: The Food start-up scene in the metropolitan area of Munich. A comparison between 2020 and 2017. *Ernahrungs Umschau* 2022; 69(7): 112–7.

The English version of this article is available online:

DOI: 10.4445/eu.2022.020

Peer reviewed

Manuscript (original) submitted: 08. December 2021

Revision accepted: 31. March 2022

Coresponding author

Prof. Dr. Hans Hauner

hans.hauner@tum.de



Methodology

Follow-up of the food start-ups in the period 2014–2016

In order to determine how many of the 51 start-ups from the first survey in 2017 still existed, a website analysis was first conducted in 2020. If no web presence could be determined anymore and the respective products/services could also no longer be found, a start-up was declared as no longer existing. Subsequently, a short online questionnaire was programmed in Qualtrics and sent by e-mail to the start-ups still in existence in order to obtain information on the development of turnover and the number of employees.

Identification of new food start-ups in the period 2017–2019

As in the first study from 2017, the search for newly founded food start-ups was conducted with the help of the database of the Chamber of Industry and Commerce for Munich and Upper Bavaria (IHK) and the online platform "munichstartups.de". All startups that were related to nutrition (food, services such as delivery services, digital services (e.g., app to avoid food waste), were founded between 01.01.2017 and 31.12.2019, and came from the Munich metropolitan region (city of Munich, districts of Munich, Ebersberg, Erding, Freising, Dachau, Fürstenfeldbruck, Bad Tölz-Wolfratshausen, Miesbach, Rosenheim, Landsberg, Starnberg) were included in the analysis. Food trucks, traditional crafts (e.g., bakeries, butcher shops) and restaurants were excluded because start-ups in these sectors are less focused on product innovation. In addition, new companies that developed and distributed alcoholic beverages were also excluded because the focus of the study was limited to healthy food products.

Initially, 765 nutrition-related start-ups were identified from the database search for companies conducted by the Chamber of Industry and Commerce for Munich and Upper Bavaria. Each entry was subsequently checked individually against the inclusion and exclusion criteria mentioned above.

In order to capture the health aspects of the products/services offered, qualitative interviews were first conducted with four start-ups and then, based on these interviews, a detailed online questionnaire was sent to all identified new food start-ups. In addition to questions on health aspects, this questionnaire also included questions on the demographics of the founders, on sustainability aspects and on the founding background (motivation for founding, financial support, etc.).

Statistics

Mainly descriptive analytical methods were used. To find out whether the data were normally distributed, the Kolmogorov-Smirnov test was applied. If the variables were normally distributed, parametric tests were performed (paired samples t-test). For non-normally distributed data, the Wilcoxon test was used. To illustrate the magnitude of the statistically significant results, the effect size (Cohen's d , r) was also calculated. The statistical program SPSS (version 25, IBM) was used for the analysis.

Results

Follow-up of the first survey in the period 2014–2016.

Of the 51 food startups founded in 2014–2016, 31 (61%) still existed in 2020. These companies were asked to respond to a short questionnaire including questions on the development of turnover and the number of employees as indicators of start-up success (♦ Table 1). Of the 31 companies asked, only 9 (29%) responded.

On average, these 9 start-ups had 3.7 ± 1.5 employees at founding and 13.3 ± 10.9 in 2020. This difference was statistically significant ($p = 0.024$) with a large effect size of $d = 0.93$ [4]. The average turnover in the first year after incorporation was $\text{€ } 99,889 \pm 103,697$. The average turnover in the last fiscal year (2019) was $\text{€ } 2,887,778 \pm 4,370,394$ ($p = 0.008$, large effect size of $r = 0.89$) [5]. Data analysis was strongly influenced by one outlier that increased its turnover from 50,000 € in the first year (2014) to about 14,000,000 € in 2019. No information on business performance could be obtained about the companies that did not fill in the questionnaire.

Analysis of new food start-ups in the period 2017–2019

A total of 41 new food start-ups were identified that were founded in the Greater Munich area between 2017–2019. The products/services of the young companies were extremely diverse. From plant-based milk alternatives to spicy snack insects, the startups studied offered a wide range of nutrition-related innovations. To get a better overview of the range of products/services, they were divided into a total of ten categories (♦ Table 2).

Innovations from the areas of "lifestyle drinks/smoothies" (25%), "confectionery/snacks" (17%) and "convenience foods" (15%) were the most common. Compared to the first survey, four new categories crystallized from the data collected: "fermented foods," which have been altered in taste, preserved, and made easier to digest through a fermentation process; "plant-based substitutes," such as vegan burgers; "food utensils," such as reusable, sustainable straws that can be used for food or beverage consumption; and innovative "nutrition apps/software," such as food waste reduction software for restaurants.

¹ www.qualtrics.com/de/



employees at foundation (2014–2016)	current employees (2020)	p-value	Cohen's d	n
3.7 ± 1.5	13.3 ± 10.9	0.024*	0.93	9
turnover first year (2014–2016)	current turnovers (2019)	p-Wert ^b	r	n
99,889 ± 103,697 €	2,887,778 ± 4,370,394 €	0.008**	0.89	9

Tab. 1: Development of the number of employees and turnover of 9 food startups from the metropolitan area of Munich area founded between 2014 and 2016. Data as mean values ± SD.

^a t-Test für gepaarte Stichproben, * p < 0,05; ** p < 0,01; ^b Wilcoxon-Test; * p < 0,05; ** p < 0,01

Relevance of health

In the first survey, a structured website analysis was used to investigate the extent to which the new products/services made a claim to improve health and how this could be substantiated. In the current analysis, the health aspect was to be examined in more detail. For this purpose, interviews with representatives of 4 of the new food start-ups could be conducted and 17 companies were willing to fill out a detailed questionnaire on this topic.

All of the start-ups interviewed stated that health is very important to them and plays a major role in their corporate philosophy. However, the taste of the products was ranked as the most important aspect, followed by health, success and sustainability. The startups surveyed also explained which specific aspects of their innovations are healthy and how these can positively influence consumers' eating behavior and nutritional quality. Most products were characterized by lower amounts of sugar, salt and saturated fats. Particular emphasis was placed on the absence of additives. The survey also revealed that only 7 of the 17 startups (43.8%) had sought support from scientific institutions (♦ Table 3). On a 5-point Likert scale, the companies also indicated how impor-

tant it was for them that their products or the statements about their products were based on scientifically validated data. The evaluation showed only average relevance (M = 3.81).

Discussion

The results of this analysis of food start-ups in the Munich region show that about 60% of the food start-ups from the first survey had developed a stable business model over a 5-year period since foundation. Similar analyses across different industries had already shown that in Germany, about 40–50% of companies do not survive the first 5 years after founding [6, 7]. According to a survey by the Institut für Mittelstandsforschung Bonn, a lack of economic success since found-

Category	Description	n	%
lifestyle drinks/smoothies	production and distribution of innovative beverage concepts (e.g. lemonades)	10	25
confectionary/snacks	production and distribution of innovative confectionery and snacks (e.g. fruit & nut balls)	7	17
convenience foods	production and distribution of pre-produced ready-to-eat dishes	6	15
fermented foods	production and distribution of food and beverages, produced by fermentation	3	7
plant-based substitutes	production and distribution of plant-based substitute products (e.g. vegan burger)	3	7
food supplements	production and distribution of food supplements	5	12
food utensils	production and distribution of utensils used for the consumption of food and beverages (e.g. cups, straws)	2	5
apps/software	development of innovative nutrition apps and software	2	5
delivery services	delivery of ready-to-eat food/beverages	2	5
other food production	other foods that cannot be classified in any of the other categories (e.g. spices).	1	2
total		41	100

Tab. 2: Categories and number of identified food start-ups newly founded in the greater Munich area in the period 2017–2019 (n = 41).



Questions about health aspects	N	%	M	SD
Does health play a role for the start-up?	17			
Yes	16	94.1		
No	1	5.9		
Importance of health for the start-up?	16		4.38	0.72
Importance of nutritional values of the products?	16		4.5	0.63
How important is the absence of additives in products?	16		4.81	0.75
Support from scientific institutions?	16			
Yes	7	43.8		
No	9	56.2		
Importance of science-based products?	16		3.81	1.38

Tab. 3: **Relevance of health for the food start-ups (n = 17)**

M = mean value (1 = lowest relevance; 5 = highest relevance); SD = standard deviation

dation led to the abandonment of business activities in almost two thirds of cases, followed by private reasons with 18 % [6]. This suggests the interpretation that business start-ups in the food industry show a similar success rate in the first 5 years compared to other industries. Our analysis also showed that 6 of the nine food start-ups that answered the questionnaire achieved a turnover of more than € 1 million per year about 5 years later. However, it has to be noted that the majority of the 31 requested companies did not provide turnover figures. The reasons for the low response rate are unclear. However, it was difficult to make contact during the Corona Pandemic. In addition, sensitive economic data were requested, for which some companies obviously did not want to provide any information. Due to the low response rate, additional qualitative interviews should be conducted in future surveys of this kind to inquire about the background, motives and justifications of the entrepreneurs.

The survey of new business start-ups in the 2017–2019 period revealed that the food sector in the Greater Munich area continues to experience brisk start-up activity with a wide range of products and services. However, compared to the first survey, slightly fewer new startups related to nutrition were found. It is difficult to assess whether this is actually a slight decline, since due to the structure of the databases used, food start-ups could have been assigned to other sectors of the economy or were not in the IHK's register and thus fell through the search grid.

In this survey, only start-ups from the greater Munich area were considered. This was done, on the one hand, to obtain a follow-up to the first survey and, on the other hand, the authors were interested in this metropolitan region due to the regional connection of the enable cluster. Since the Munich region offers very favorable conditions for start-ups and Munich's universities in particular form good entrepreneurship ecosystems, the results of this analysis are unlikely to be representative for the Federal Republic of Germany [8]. Even though the study showed that the proximity to science after founding is not relevant for all companies. For future studies, it would be interesting to include other regions, e.g. those of the other three nutrition clusters (DietBB [Bonn], NutriAct [Berlin-Potsdam], NutriCard [Halle, Jena, Leipzig]) or others such as Berlin or Hamburg, in order to capture possible regional differences.

When comparing the new products and services with which the food start-ups entered the market, the main finding was that there were more digital offerings in the 2017–2019 period than in the 2014–2016 period. In terms of products, it was noticeable that more plant-based substitutes, fermented foods and products with sustainability claims have been offered recently. These business ideas are likely to have better chances of success at a time when the desire for greater sustainability and health is strong among consumers.

The results of the questionnaire, which was answered by 17 out of 41 newly founded start-ups, further show that health remains a very important topic. Today, health is increasingly seen as a dimension of life that can be actively shaped by the individual and no longer simply means the absence of illness or infirmity [9]. Increasing health literacy and growing sensitivity to the well-being of one's own body are contributing to a more conscious diet among many people [9]. Many and especially well-educated and affluent consumers want to eat healthy, balanced, and "additive-free" diets. The newer start-ups seem to be responding to these trends and trying to serve these desires [10].

In the interviews, it also became clear that many food start-up founders had founded their companies not only out of economic interest, but primarily with the clear intention of offering consumers a healthier dietary option. Still, the taste of the products was rated by the companies as most significant for the purchase decision, followed by health, and sustainability. This assessment is in line with the results of a recent survey by the German Federal Ministry of Food and Agriculture (BMEL), in which the surveyed consumers identified good taste as the most



important aspect in food selection, closely followed by health [10].

It was striking in our analysis that only slightly more than 40 % of the food start-ups stated that the development of their products or services was based on scientific knowledge or involved nutritional expertise. This proportion is in line with the results of the 2017 enable study [3]. Thus, it is clear that many food start-up founders do not consider scientific evidence for the health aspects of their products to be necessary or do not assign any value to it. However, it was also indicated that contact attempts on the part of the founders for cooperation with research institutions had frequently failed. This shows that young entrepreneurs should have easier access to publicly funded scientific institutions and that there is still room for improvement here.

A limitation of this survey was that despite great efforts and repeated contacts, only 17 of 41 companies participated. The reasons for non-participation could not be determined, but due to the size of the questionnaire and the fact that start-ups usually have only a short time window available, the response rate of 41% can still be considered positive.

In summary, this survey shows that there continues to be considerable activity by founders in the food sector. The success rate is in line with the average among entrepreneurs across different sectors. Another important finding was that the access of potential founders to publicly funded research institutions should be facilitated and technical support intensified.

The analysis presented here was carried out as part of the innovation activities of the "enable" nutrition research competence cluster funded by the German Federal Ministry of Education and Research (BMBF). One of the requirements of the BMBF funding was that the nutrition clusters either initiate start-ups themselves or provide technical support to start-ups. The "enable" cluster offered founders with innovative ideas "vouchers" (with up to €5,000 in funding), which enabled them to cooperate with scientific institutes in various phases of product development and commercialization and to receive expert support. This offer (eleven vouchers in the funding period from 2015 to 2021) was abundantly taken up, especially by startups that did not have nutritional science or food technology expertise. Some of the young companies identified in this analysis had also received an innovation voucher from the enable cluster and were able to realize their product ideas as a result.



M.Sc. Julian Dei¹
Dr. Kerstin Dressel¹
Prof. Dr. Peter Eisner²
Prof. Dr. Jutta Roosen³
Prof. Dr. Hans Hauner^{4,5}

¹ Technical University Munich
enable office
ZIEL - Institute for Food & Health
Weihenstephaner Berg 1, 85354 Freising, Germany
julian.dei@tum.de
kerstin.dressel@tum.de

² Fraunhofer Institute for Process Engineering and Packaging (IVV)
Giggenhauser Street 35, 85354 Freising, Germany
peter.eisner@ivv.fraunhofer.de

³ Chair of Marketing and Consumer Research
Technical University Munich
Old Academy 16, 85350 Freising
jroosen@tum.de

^{4,5} Chair of Nutritional Medicine
Else Kröner-Fresenius Center for Nutritional Medicine
Technical University Munich
Gregor-Mendel-Str. 2, 85354 Freising, Germany

Conflict of interest

This analysis was funded by the Federal Ministry of Education and Research (BMBF), Germany, as part of the program "Competence Clusters in Nutrition Research" (grant no. O1EA1409A).

References

1. Bundesvereinigung der deutschen Ernährungsindustrie e.V.: *Ernährungsindustrie 2020*. www.bve-online.de/presse/infotehke/publikationen-jahresbericht/bve-statistikbroschuere2020 (last accessed on 1 February 2021).
2. Bundesvereinigung der deutschen Ernährungsindustrie e.V.: *Jahresbericht 2019/2020*. www.bve-online.de/presse/infotehke/publikationen-jahresbericht/bve-jahresbericht-ernaehrungsindustrie-2020 (last accessed on 24 January 2021).
3. Prankl V, Dressel K, Hauner H: Eine Analyse der Food Start-up-Szene in der Region München. *Gesundheit im Mittelpunkt? Ernährungs Umschau* 2017; 64(8): M460–4.
4. Cohen J: *Statistical power analysis for the behavioral sciences*. 2nd ed. Hoboken: Taylor and Francis 1988.
5. Cohen J: A power primer. *Psychological Bulletin* 1992; 112(1): 155–9.
6. Brink S, Ivens S, Nielsen S, Schlömer-Laufen N: *Neugegründete Unternehmen und ihre Entwicklung: Eine empirische Analyse anhand verschiedener Erfolgsdimensionen*. www.researchgate.net/publication/327764873_Neugegruendete_Unternehmen_und_ihre_Entwicklung_Eine_empirische_Analyse_anhand_verschiedener_Erfolgsdimensionen (last accessed on 4 February 2021).
7. Rink A, Seiwert I, Opfermann R: *Unternehmensdemografie: methodischer Ansatz und Ergebnisse 2005 bis 2010*. www.destatis.de/DE/Methoden/WISTA-Wirtschaft-und-Statistik/2013/06/unternehmensdemografie-062013.pdf;jsessionid=FDf814E1164E0C4513BDAF0F57E0523B.internet722?__blob=publicationFile (last accessed on 5 February 2021).
8. Welpel I, Abdel-Massih M, Uhlemann K, Bielmeier S, Horvath B, Heidegger L: *Benchmarking der Entrepreneurship Performance deutscher Hochschulen*. www.entrepreneurshipranking.com/wp-content/uploads/2021/08/Benchmarking-der-Entrepreneurship-Performance-Deutscher-Hochschulen-FINAL.pdf (last accessed on 30 March 2022).
9. Hutapea L, Malanowski Norbert: *Neue Geschäftsmodelle in der Ernährungsindustrie und im Lebensmitteleinzelhandel*. Working Paper Forschungsförderung Hans-Böckler Stiftung 2019; 141: 9–10.
10. Bundesministerium für Ernährung und Landwirtschaft (BMEL): *Deutschland, wie es isst: Der BMEL-Ernährungsreport 2020*. www.bmel.de/SharedDocs/Downloads/DE/Broschueren/ernaehrungsreport-2020.pdf?__blob=publicationFile&v=22 (last accessed on 13 January 2021).