Classifying restaurants to improve usability of restaurant research

By: Bonnie Farber Canziani, Barbara Almanza, Robert E. Frash Jr., Merrick J. McKeig, Caitlin Sullivan-Reid

Abstract:

Purpose This paper aims to review existing restaurant classifications within the literature in the restaurant management field. The authors discuss intra-industry ramifications of the limited use of recognized typologies and the need to prescriptively guide the description of restaurant context in the literature to communicate the internal and external validity of findings.

Design/methodology/approach Restaurant categories from accepted typologies are used as keywords to collect 345 empirical studies from ten relevant journals serving the global restaurant management discipline. Content analysis of titles, abstracts and methodology sections is used to examine three propositions regarding the standardization, rationalization and efficiency of restaurant classification in imparting restaurant context in published works.

Findings Findings show inconsistent use of existing typologies and limited use of effective restaurant descriptors to inform users about the situational context in which data were gathered or hypotheses were tested. There is a general preference for categories commonly associated with those of the National Restaurant Association.

Research limitations/implications Researchers should standardize descriptions of restaurants in manuscript titles, abstracts and methods sections, thereby enhancing integration of international research, the ability to conduct macro-level industry studies, and communication of findings to practitioners for operational use.

Originality/value Recommendations are offered to optimize the use of restaurant classification so that the content of empirical studies may be more effectively accessed, digested and compared, thereby enhancing the communication of advances in the restaurant management body of knowledge to practitioners and other researchers.

Keywords: restaurant | research methodology | typology | validity | industry classification | food service

Article:

Introduction

Research has a positive impact on the hospitality management field when study results can inform managerial decisions and expand the body of knowledge (Day, 2012). For any single research report to have impact, however, the content of the study must be accessible and relevant to the community of practice (Usunier, 2006). There must be an effective way for hospitality decision makers to identify literature that is applicable to their individual needs; generally, this involves a keyword search within appropriate knowledge outlets (Onwuegbuzie et al., 2012). Users of library systems and industry databases are highly dependent on the aptness of key phrases that have been specified by previous authors whose articles have been stored within these information repositories.

When writing for publication, researchers ideally describe the situational context of the study, i.e. the organizational settings to which research findings might be applicable (Academy of Management, 2005). For restaurant research, specifying context involves describing the type of restaurant operation where data were collected. The current dilemma is that researchers are haphazard in reporting descriptors that would help to detail the restaurant setting. Compounding this issue is the fact that no single typology is clearly marked as the standard for specifying restaurant contextual information. Furthermore, the predominant restaurant classification terms seem to be weakly defined rather than standardized in current reporting practices.

In this study, the term "restaurant management literature" is an encompassing one, indicating published empirical scholarship in any business aspect of the restaurant field. The paper does not address non-empirical conceptual or review papers or trade magazine articles. We evaluate the frequency of use of terms that are used to divide restaurant units into discrete segments. The primary sources of these terms are the restaurant industry (the National Restaurant Association or NRA), government guidelines (the North American Industry Classification System or NAICS) and the academic literature (Muller and Woods, 1994). We discuss intra-industry ramifications of the limited, standardized use of typologies, in general, and the need for a solid model to guide the description of context in the restaurant management literature to communicate the internal and external validity of findings.

Background literature

Reporting contextual information in published studies

Many disciplines have reporting guidelines for researchers in their fields that highlight the implicit interdependence between researchers and subsequent users of study publications. For example, the Academy of Management (AOM), in its Research and Publication, Section 4.1.2 of its 2005 revised code of ethics, counsels that "AOM members report their findings fully and do not omit data that are relevant within the context of the research question (Academy of Management, 2005)". According to the American Educational Research Association, in the preamble to its standards:

> Reports of empirical research should be transparent; that is, reporting should make explicit the logic of inquiry and activities that led from the development of the initial interest, topic, problem, or research question; through the definition, collection, and analysis of data or empirical evidence; to the articulated outcomes

of the study […]. Reporting that takes these principles into account permits scholars to understand one another's work, prepares that work for public scrutiny, and enables others to use that work. (American Educational Research Association, 2006, p. 33)

Industries and researchers must monitor the development and use of their growing knowledge base so that any risks of using data and findings are adequately understood by decision makers. For example, given that healthcare fields typically experience exceptionally high levels of liability when using study findings to create new treatments and medical practices, the field seeks to promote "transparent and accurate reporting and wider use of robust reporting guidelines" (Equator Network, 2014). Recommendations include detailed discussion of how to report sampling methods and other protocols so that findings and implications can be understood in the health sectors and subsequent research can be designed effectively.

The American Statistical Association (ASA) cautions federal statistical agencies to:

Develop and retain credibility among data users – Because few data users are in a position to verify the completeness and accuracy of statistical information, they must rely on an agency's reputation as a source of accurate and useful statistics […] (American Statistical Association, 2013).

The ASA's (1999) ethical guidelines state that researchers should:

[…] account for all data considered in a study and explain sample(s) actually used; clearly report the sources and assessed adequacy of the data; and fully report the steps taken to guard validity (American Statistical Association, 1999, p. 4).

This latter example introduces the close connection between description of the sources and types of subjects and data and the role of study validity.

Validity and generalizability of research findings

Rupp and Pant (2007) underscore the importance of examining the validity of research studies, describing internal validity as the basic research design and implementation requirements for study findings to be interpretable and meaningful for answering the research question. External validity addresses the question of generalizability: to whom can we generalize this study's findings? The literature also examines certain aspects of research design in relation to validity. Representative design infers that, to support external validity, the methods, materials and setting of the study must approximate the real-world context that is being investigated (Hammond and Stewart, 2001).

Lack of external validity is a threat regardless of discipline. Largely, this occurs when the operational definitions of a researcher's sampling frame or study parameters are very narrowly specified. In this case, researchers will, by design, exclude members of the population or will disregard other settings that might be appropriate for investigating the research topic. The more unique or focused that the sampling units and operant conditions are in a study, the less generalizable the findings will typically be. But it is not generally feasible to counter threats to external validity by being less precise or focused in the design of the study: each researcher must

operationally define study parameters so that they serve the study purpose adequately, whether or not such definitions are restrictive.

On the other hand, it is feasible and desirable for researchers to specify sampling units and settings accurately by using accepted variable definitions and field-based classifications. "Accurate industry classification is essential for drawing valid statistical inferences from empirical samples" (Hrazdil et al., 2013, p. 77). This is a critical issue for hospitality research. Because hospitality establishments are diverse with respect to organizational, market and economic variables – such as service levels and styles, menus, employee skill sets, organizational and ownership forms, price points and so forth – the field needs to adopt common definitions to foster standardized reporting practices.

Even when standardized terminology exists, researcher heuristics and biases threaten the validity of studies. For example, bias occurs when researchers neglect to examine sufficient breadth or depth of variables or do not acquire reasonable sample sizes that would help to justify the study findings as generalizable to a larger population (Taborsky, 2010). Misclassification bias (a type of comparison error) occurs when the dimensions used to stratify a sample are ill-defined or when post hoc groups overlap on interval values so that groups are not mutually exclusive. Such biases can occur at any of the primary stages of a research endeavor: research design and data collection, data analysis and data interpretation (Judge and Schechter, 2009).

Using restaurant classifications to specify research context

In this paper, standardizing restaurant characteristics is explored as a way to increase report validity and usability. Classifications typically specify common features that restaurant units share with others. The use of descriptors, such as price levels, also shows whether the author correctly classified the restaurant into a restaurant industry segment – for example, stating that a fine dining restaurant had an average check of forty dollars (versus ten dollars or less).

A view from the archives of restaurant history

As any industry emerges into being, a vocabulary is mustered to describe the artifacts produced and consumed in the marketplace; moreover, a budding lexicon supports more intricate discourse among industry participants and observers. Historical analysis of public dining in Europe indicates the origins of many ways of describing restaurants today (Mac Con Iomaire, 2013). In the 1800s, dietary systems were nuanced by social rank, and there was an increasing sophistication of dining etiquette and culinary techniques among the households of the upper and middle classes. These class distinctions are reflected today in the notion of restaurant tiers, i.e. moderate or upscale or fine dining. Product-defined eateries of the past, such as grills, oyster bars and ale and coffee houses, are also retained today along with newer entrants such as pizzerias and steakhouses.

Parisian restaurants existing in 1825 adopted criteria that are still used today by restaurateurs in defining modern business models, including concepts such as "separate portions" (service style), "bills of fare" (menus) and "set prices" (Symons, 2013, p. 253). Early food production anticipated current organic, cage-free and locally-sourced foods, while technologies and administrative techniques of the twentieth century spawned a surge of new restaurant models, such as quick service and franchise chains. There are many classification factors reflected in present day US typologies that arose early in the global restaurant field and are still important

today. These serve as a starting point for our current study of restaurant classification and reporting behavior.

Current restaurant industry typologies in the USA

Segment is a common grouping term used by the restaurant industry. Generally, segmentation requires the classifier to discriminate among segments using reasonable dimensional characteristics. The primary US typologies are associated with the NRA and the US Census Bureau:

> Assumedly, the preparers of the data at [agencies such as] the NRA are knowledgeable informants of the restaurant industry who have separated the industry into meaningful segments and resource categories (Harrington, 2001, p. 391).

Historically, the NRA has reported five major restaurant industry segments: quick service restaurants (QSR or fast food), fast casual, midscale, moderate (or casual) and fine dining (or upscale), and it also distinguishes among independent and multi-unit [chain] restaurants.

The US Census Bureau, in its North American Industry Classification System (NAICS, 2014), proposes four primary subcategories under code 722, Food Services and Drinking Places: full-service restaurants, limited-service eating places, special food services and drinking places. Additional descriptive adjectives are presented as subcategories of the NAICS classification system, i.e. diners, family dining, fast food, fine dining, pizzerias, steak houses and takeout/carryout restaurants. Although intended for government use in statistical analyses of business establishments, industry and academic reports have also used the NAICS classifications.

Other professional organizations have contributed to the characterization of restaurant business segments. A popular financial intelligence company, Hoovers, divides its Restaurant, Bars & Food Services category into bars & nightclubs, catering services, food service contractors, restaurants, casual restaurants, coffee shops, fast-food & quick-service restaurants, specialty eateries and upscale dining segments – largely replicating the NRA type categories (Hoovers, 2014). In summary, these aforementioned, published segment types and their corresponding definitions comprise the foundational vocabulary used to describe restaurants within the USA.

Notably, a review of the restaurant literature reveals only one work proposing a typology for restaurants (Muller and Woods, 1994). Muller and Woods' (1994) typology is similar to the NRA typology, with distinct segments as follows: quick service, midscale, moderate upscale (which they correlated to NRA's casual) and upscale. They added business (or industry and contract food service) dining to these initial four segments although business dining has not taken hold in research or industry reporting.

While current studies are using terms from the NRA and NAICS, closer examination of the literature shows only weak consensus in how authors are defining these different segments, even in the presence of published definitions of segment features. The concept of "restaurant segment" needs further investigation to fully comprehend how classification is used in restaurant research. The purpose of this research therefore is to determine how restaurants are commonly segmented in research studies and to use this information to suggest a standardized schema. The benefit of a standardized restaurant segmentation method is that it will strengthen the body of knowledge. Results from multiple studies (with similar segmentation) could potentially

be integrated, thereby enriching restaurant research and simplifying interpretation of the research for the industry as well as academia.

Research design and methodology

To provide empirical support to our claim that restaurant context tends to be ambiguous or weakly specified in the literature, the following propositions were tested:

P1. Authors/researchers communicate restaurant context in their published methodologies in ways that are weakly specified and/or do not follow common industry classification practices or typologies. This is a standardization problem.

P2. Authors do not use sufficient or adequate descriptors in their methodologies to inform the user about the accuracy of segmentation or classification of the studied restaurants. This is a rationalization problem.

P3. The keywords being used in titles and abstracts do not support user search for specific restaurant segments or sub-segment research that might be relevant to user needs. This is a search efficiency problem.

The authors performed content analysis on a sample of hospitality journal articles. To obtain an adequate sample, a mixed method of automated and manual searches was used; the first step involved the Hospitality and Tourism Source Complete® database, using preselected terms to locate papers relevant to restaurant management. The following words – "restaurant, food, menu, dining, cuisine, culinary, chefs and catering" – were used as subject search terms.

All articles were downloaded to a personal computer and manually vetted to confirm the use of empirical methodologies within the context of the restaurant sector. As added steps to boost reliability of the sample of articles, the initial set of retrieved articles was expanded through:

- a manual search of references appearing in the initial sample; and

- a library system search within applicable journals populating the initial sample, using the same aforementioned search terms.

The authors limited the sample to works published within the period of year 2000 to 2012 – to reflect recent practices in the field. Given the global nature of the hospitality industry, no sampling constraints were placed on the geographic setting of study methodologies. Studies were included regardless of their unit of analysis, and they involved a variety of data. People topics (patrons or staff), intercept encounters with customers, menu and sales data analyses and operational analyses were included within the scope of this study. The final sample comprised 345 empirical studies from ten academic journals commonly identified as being primary outlets for restaurant scholarship.

The next step was to review the methodology of each article, as authors most often communicate situational details of restaurants within their methods sections. Manual content analysis of each article's title, abstract and methods section was performed to identify extant classifications. Analysis followed the taxonomies of NAICS and NRA, Muller and Woods (1994),

i.e. quick service, fast food, midscale, moderate, casual, upscale, fine dining, fast casual, business dining, full-service, limited-service, chain, multi-unit, independent and family. The presence of taxonomical terminology was confirmed through manual examination of the text that surrounded the highlighted terms, to ensure applicability to the present study. Hence, the applied form of content analysis is descriptive, involving frequency counts of terms and phrases with manual verification of terms and their adjacent text as the primary rationale for inclusion in the data set. Other restaurant descriptors, outside the three taxonomies, were recorded as well.

Findings

The use of existing typologies to guide research methodology in restaurant studies

The results of content analysis supported proposition one: there was evidence of non-standardized, inconsistent use of NRA, Muller and Woods (1994), or NAICS in the empirical studies sampled (Table I). Only one author directly cited a typology in a methodology section (Kim et al., 2010). NRA restaurant types, i.e. quick service restaurants (QSR or fast food), midscale, moderate (or casual or themed), upscale (or fine dining), and, more recently, fast casual, were by far the most widely used segment labels. Looking at the methodology sections alone, of the 345 scanned articles, 214 (62 per cent) referred to one or more of the NRA segment types. 75 (22 per cent) mentioned QSR or fast food, 59 (17 per cent) involved upscale or fine dining restaurants, 56 (16 per cent) included moderate or casual restaurants, 14 (4 per cent) mentioned fast casual, and 10 (3 per cent) mentioned midscale restaurants as an identifying characteristic.

The choice of terms versus their alternates, i.e. fast food instead of quick service, is unpredictable: reports use one or the other with no documented rationale for doing so. Overwhelmingly, casual was the term of preference for denoting a restaurant between quick service and upscale/fine dining. It was accompanied most often by another term such as family, themed or seafood, providing evidence of inappropriate fuzziness in the middle-tier segments. For example, casual and competing segment terms such as family or upscale were used together as a single phrase without explanation. Results show that the term casual, when linked with the word "dining", as in, "casual dining", has little standardized definition.

Table I. Use of recognized industry terminology to describe restaurants studied

NRA descriptors	No. of articles (of $N = 345$)	NAICS descriptors	No. of articles (of $N = 345$)
Quick service (or fast food)	75	Full-service	44
Fast casual	14	Limited-service	8
Midscale	10	Family restaurant	17
Moderate (or casual or themed)	56	Pizza restaurant	2
Upscale (or fine dining)	59	Steakhouse restaurant	8
Chain	67	Cafeteria	4
Independent	18		

The number of articles referring to a multiunit context was 67 (19 per cent) of the set of 345 articles studied, while 18 (5 per cent) of the articles identified independent-owned restaurants. Fewer than 3 per cent identified a mix of independent and chain restaurants as their focus of study. Turning to the NAICS categories, of the 52 articles that mentioned the terms full or limited-service,

44 articles reported including full-service restaurants in their study and 8 included limited-service; only five of the 52 included both limited and full-service restaurants in their study. Other relevant NAICS terms that appeared in the sample set of articles were: family restaurant (17 articles), pizza restaurant (two articles), steakhouse (eight articles) and cafeteria (four articles). No article specifically mentioned business dining (Muller and Woods, 1994).

Describing restaurant characteristics versus explaining sampling frame sources

Rather than describing types of restaurants, some authors only explained the sampling frame used to select restaurants for the sample. Eight articles stated the use of US public trading systems databases (Hua and Templeton, 2010); two used the UK's Good Food Guide (Carter, 2009); several more relied on US state restaurant associations and yellow page directories. While information about sampling frames is useful, it does not offset the need for viable contextual information about the restaurants that are studied. Sampling frames do not substitute for restaurant description: specifying the latter clarifies what types of restaurants were studied and what restaurant characteristics were vital to document for the sake of controlling the study parameters or better explaining the findings after the fact. As a majority of the studies were convenience samples, it is certainly an appropriate activity for researchers to provide clearer contextual data for researchers hoping to increase the face validity of their studies.

Moreover, guides such as the Michelin Guide (Michelin, 2014), the Mobil Travel Guide (HowStuffWorks, 2010) and the American Automobile Association (AAA) Travel Guide (American Automobile Association, 2014) can be more than a sampling frame. Restaurant ratings are an additional piece of contextual information that could be useful in research studies (Johnson et al., 2005). Only seven reports of 345 used these ranking systems to confirm the class of restaurant studied. One used both Mobil and AAA, and six used the Michelin Guide (Ottenbacher and Harrington, 2007).

Rationalizing placement of restaurants into segment classes

In terms of proposition two and rationalization of segments, the quality of supplemental descriptive information being offered is low. Few studies (only 10 per cent) provided any type of justification for their classifications. Very little of the explanatory information recommended in Muller and Woods (1994) – such as menu variety, menu complexity, take-out or self-service, payment sequence, price levels or service style – appeared in the methods sections. When such explanatory information was present, it typically did not serve to rationalize the classification of the restaurant(s) studied.

Dimensionality that is used to differentiate across segments is also unclear in the literature. One NRA-referenced source defines pricing levels as follows:

> Quick-service (fast food) average per-person dinner is $3-$6; Quick-casual restaurants average per-person dinner is $7-$9; Family dining average per-person dinner is $10 or less; Casual dining average per-person dinner is $10- $25; Fine dining average per-person dinner is $25 or more (National Restaurant Association, 2010).

Looking at the repetition of US$10 and US$25 across categories, there is definitional overlap in the price intervals, which suggests that segments are weakly differentiated when price is the only factor used. In our sample, there was no consistency in terms of the price points researchers used for grouping restaurants.

Also, when the unit of analysis of a study is not the restaurant operation per se but rather its employees, managers, executives or patrons, authors are often negligent in their descriptions of the restaurant context. They rely on the demographic or psychographic profiles of their human sample to allow users to interpret an article's findings. Studies in our sample that have a consumer or organizational behavior slant seem to fall prey to this lack of restaurant specification more so than do studies of menu analysis, technology or food safety. Finally, fewer than 14 per cent of the articles listed the names of actual restaurant companies. This likely corresponds to the institutionalized practice in academic studies of guaranteeing confidentiality to participating subjects and organizations.

The efficiency of keywords in titles and abstracts

Proposition three is examined by determining whether restaurant typology terms that have been identified in the methods sections of reports are being used as keywords in titles and abstracts. As the NRA typology was more prevalent in this sample of articles, we limited analysis to this typology. Table II shows how many of the articles with NRA terms in their methods sections actually included the same NRA typology term in the titles and/or abstracts of the articles as well. Quick service/fast food leads in both the number of sampled articles dealing with this restaurant type and in the number of manuscript titles and abstracts reflecting this focus.

Generally speaking, the appearances of these terms in titles and abstracts were directly proportional to their presence in the article methodologies with one slight exception: while the number of studies dealing with casual dining restaurants is slightly smaller in this sample than the number of studies dealing with upscale/fine dining restaurants, the term casual appears more often than the term upscale does in the abstracts of journal articles. Midscale and fast casual were the least prevalent terms in article titles and abstracts, following the limited use of these in the sample set overall. Interestingly, upscale appeared in titles and not abstracts, while the term fine dining appeared only in abstracts and not in titles. Our findings in this comparison demonstrate that authors are not opposed to using restaurant segment terms in their titles and abstracts, but they do so erratically and may need increased reminders to apply standard typology terms as article keywords to facilitate user access to relevant studies.

The use of additional descriptors in describing restaurants

Our manual content analysis permitted us to capture other restaurant labels that were being deployed by authors. As Table III shows, there were relatively few other restaurant descriptors that are well-defined enough to be helpful in comparing restaurant studies. The most frequently-used supplemental descriptor was "ethnic".

Some descriptors, e.g. hotel restaurant, may have utility in imparting additional contextual information. Hotel budgeting practices and the systematic cross-training of employees may be constraints on hotel restaurants that help users make sense of empirical findings from the hotel restaurant environment. In like manner, restaurants that have a primary focus on the sale of beverages, such as taverns or pubs, should continue to be identified as such. The presence in these

Table II. Presence of NRA segment terminology in sampled journal articles

NRA typology category	No. Articles (of N = 345)		
	Where term appears in the methodology	Where term appears in the title	Where term appears in the abstract
Quick service/Fast food	75	66	56
Fast casual	14	9	5
Midscale	10	7	2
Casual	56	41	34
Upscale/Fine dining	59	43	18

articles of additional descriptors is good, but the industry still needs to define such terms adequately so that they can be used systematically in future studies.

Some words, in the absence of any definition, are less useful. The term themed restaurant, for example, is applied to a wide range of restaurants encompassing sports bars, beach restaurants, restaurants with ethnic menus and entertainment-focused operations. The word themed may be too ambiguous to appropriately serve the decision maker unless authors carefully outline what they mean when they use this term (Beardsworth and Bryman, 1999).

The case of "ethnic" restaurants

Although the term "ethnic" is used relatively frequently, this characteristic appeared to have no clear definition other than a general allusion to culture. Of the 345 studies, 34 (10 per cent) refer to their studied restaurants as ethnic. However, the definition of ethnic varies from article to article. In descriptions of US and UK restaurants, ethnic typically denotes that some aspect of the menu falls into the following cuisines: Afro-Caribbean, Asian, British, Chinese, French, Greek, Indian, Italian, Japanese, Korean, Kosher-certified, Mexican or Thai. In direct contrast to this conceptualization of ethnic restaurants as serving culturally foreign menus and foods, one study of restaurants in Denmark uses ethnic to portray the opposite meaning of local Danish cuisine, while the term international is used to convey foreign cuisine offerings in Denmark, as in American or Chinese restaurants.

Beyond these reported difficulties around the definition of the general term ethnic, we also found confusion in use of the phrase Chinese restaurant. In two studies (in Hong Kong and Taiwan), the term Chinese is glaringly vague, as no clarification in terms of menus, cuisine or other defining attributes was provided, other than the restaurants having managers of Chinese heritage or being located in these two regions. What this suggests is that there is a need to further distinguish between geographic location and cuisine as mutually exclusive categories when describing types of restaurants. In a follow-up point, geographic location is given in most articles, but often with only vague allusions to regions, such as the US Midwest or a large city in the Southwestern USA.

Table III. Additional restaurant descriptors evidenced in empirical methodologies

Additional descriptors	No. of articles where term appears (of $N = 345$)	Additional descriptors (cont.)	No. of articles where term appears (of $N = 345$)
5* Mobil/AAA	1	Low complexity	1
A la Carte	2	Luxury	4
Bar restaurant	8	Michelin star	6
Branded	24	Mid-price	1
Buffet	13	National	10
Café	6	Niche brand	1
Coffee shop	6	Pub restaurant	6
Commercial	5	Publicly traded	8
Diner	3	Roadside	1
Dinner house	2	Seafood	5
Entertainment	1	Self-serve	1
Ethnic	34	Small	3
Food stand	1	Student run	1
Franchise	12	Table service	12
Hotel	18	University	16
Limited-menu	1	Wine	5

Conclusions and discussion

Conclusion

Results demonstrate inconsistent use of existing restaurant classification typologies and insufficient restaurant description; both issues hinder understanding of how representative restaurant studies are to the context of the reader. When restaurant classification is present in a publication, there is a general preference for categories commonly associated with those of the NRA. To the extent that the terms quick-service, fast-food, fast casual, midscale, moderate, casual and upscale are, by far, the most widely used to describe restaurants in this set of empirical studies, we would recommend the presence of these words as much as possible, when applicable, in the titles, abstracts and methods sections of articles.

Various factors can be posited for why authors inadequately describe restaurant context. First, the theoretical model may be poorly specified due to limited understanding of how to adequately stipulate variables or sampling units. Second, the researchers may be hindered by ambiguity in the literature as to the best typologies or definitions to use for classifying restaurants to assist users in determining applicability to their own purposes. It is for this reason that we recommend a structured classification process. Third, if the researchers' assessment or collection of useful restaurant attributes is sparse (observational bias) during the methods design/sampling phases, then they cannot pass on critical contextual detail to their users. Fourth, authors may be negligent in the reporting of this contextual information at the point of writing the research methodology and its accompanying title and abstract. Finally, the researchers may agree to confidentiality in exchange for access to company data, staff or patrons, suppressing detail that might permit a company's identity to be revealed when it does not want it to be.

Theoretical implications

Classification is an important activity when conducting research because it identifies the type of restaurants studied. The current paper does not attempt to critique existing restaurant typologies but rather indicates the need to be more prescriptive in describing restaurant context. Best practice would require that standardized variable definitions be used by researchers to classify a restaurant into one segment category or another to facilitate within-segment comparisons. To that end, we propose a systematic five-step restaurant classification tool incorporating the terms and definitions found in our content analysis. The tool contributes to restaurant research by mitigating complexity in the design of study methodologies.

Step one verifies that the establishment(s) studied belongs to the restaurant sector, as differentiated by definition from other food services (Merriam-Webster, 2005). Step two then characterizes the dominant service mode (full versus limited) as defined by the North American Industry Classification System (USA Census Bureau, 2012). Step three permits more detailed specification by dining characteristic, drawing from industry and scholarly sources, including the National Restaurant Association's 2013-2014 edition of the Restaurant Operations Report, NPD market research, Hoover's business information, and others (Deloitte, 2013; Dictionary.com, 2014; Hoover's, 2014; Muller and Woods, 1994; NPD Group, 2014; Tristano, 2013; Smith, 2011; USA Census Bureau, 2012). To aid clarification, nationally known restaurant examples and average check amounts are posited for each category identified in step three. Step four permits further

specification at the discretion of the researcher; displayed are examples from the present content analysis. Finally, step five addresses the restaurant's ownership status (Matthews, 2014):

1. Step 1: Foodservice sector: Is the business establishment a restaurant? A restaurant is defined as a fixed location where meals and refreshments are available for purchase. Related foodservice business establishments that are not defined as restaurants include: bars and nightclubs, food service contractors (a.k.a. managed or contract foodservices), mobile food trucks, vending and catering-only services.

2. Step 2: Service mode: Is the restaurant full-service or limited-service? Service mode types are as follows: full-service, in which restaurants provide food services to patrons who order and are served while seated and pay after eating, and limited-service, where restaurants provide food services to patrons who order and pay before eating.

3. Step 3: Menu/dining styles: Which menu/dining styles apply to the restaurant being studied? Menu/dining styles are further delineated in the following lists. Average check per person (ACPP) approximates aggregate national means in the USA:

    a. Full-service categories:

        i. *Moderate* (e.g. Denny's, Steak 'n Shake) with (ACPP) under US$15. Economical foods are prepared to order in a family-friendly, utilitarian setting.

        ii. *Midscale* (e.g. Applebee's, TGI Friday's) with ACPP of US$15 to US$24.99. This category focuses on casual dining with mainstream dishes and units often feature a bar area and serve alcoholic beverages.

        iii. *Upscale* (e.g. Bonefish Grill, Ruth's Chris Steak House) with ACPP of US$25 to US$39.99. Units serve superior quality foods with innovative approaches in a relaxed atmosphere and offer higher-end alcoholic beverage menus that include wine, spirits and beer.

        iv. *Fine dining* (e.g. French Laundry) with ACPP of US$40 and over. Units serve only the finest quality foods, often farm-to-table, are frequently chef-owned, and create unique menu fare that is visually attractive.

    b. Limited-service categories:

        i. *Café/snack bar* (e.g. Starbucks) with ACPP of US$3 to US$5. Units sell coffee drinks and other snack foods and beverages for consumption on the premises or for takeout.

ii. *Fast-food* (e.g. McDonalds) with ACPP of US$4 to US$6. Units prepare economical foods, in quantity, by a standardized method that can be dispensed quickly for consumption on the premises or for takeout.

iii. *Fast-casual* (e.g. Panera Bread) with ACPP of US$8 to US$12. Food is prepared to order with fresh (or perceived as fresh) ingredients; units serve innovative food suited to more sophisticated tastes, in an upscale interior design.

iv. *Cafeteria* (e.g. S&S Cafeteria, Old Country Buffet) with ACPP of US$8 to US$12. Units are primarily engaged in preparing and serving meals for immediate consumption using cafeteria-style or buffet serving equipment such as steam tables, refrigerated areas, display grills and self-service nonalcoholic beverage dispensing equipment.

4. *Step 4: Specialty descriptors: What additional specialty descriptors apply to the restaurant?* These may be at the discretion of the researcher to further communicate the type of restaurant. Terms that surfaced within the present study included: casual; themed; ethnic (Afro-Caribbean, Asian, Mexican, Chinese, Tai, Korean, Indian, Mediterranean, Greek, Kosher, etc.); seafood; BBQ; farm-to-table; café; diner; hotel; luxury; pub; roadside; etc.

5. Step 5: Ownership status: Is the establishment a chain or independt restaurant? A chain is a set of related restaurants, in different locations, that is under shared brand control with a distinct headquarters. Establishments are owned by either a regional or national franchisee or brand company. An independent unit is a restaurant that is not part of a chain; it is sometimes referred to as a "non-chain" restaurant.

We believe the model has the potential, with further input from experts outside the USA, to expand to a broader geographical context inasmuch as the five primary model criteria that are used to describe restaurants are relevant in many world regions – some having origins in Europe, as noted in the discussion of restaurant history. Where differences will likely occur is in the select preference of any particular nationality for specific specialty descriptors in step four, e.g. fish and chip shops in the UK, brasseries in France, churrascarias in Brazil or ramen shops in Japan. The preceding five-step restaurant classification system draws both from accepted industry practices and from scholarly literature to formulate a more systematic, comprehensive and thoughtful decision process. It is our hope that the framework presented in this paper encourages deliberation and perhaps, with time, needed consensus. By advancing and citing the use of typologies, the research community can open the body of knowledge to enhanced macro-level industry studies as well as meta-theoretical and meta-analytical reviews that will permit long-term scientific progress in the restaurant management field.

Practical implications

Standardization in restaurant classification terminology aids managerial decision making. Restaurant segment and subsector indices are required by managers, accountants and marketers as

benchmarks against which individual companies can gauge performance. Restaurant classification supports the structuring of industry-level and unit-level reports and aids the comparison of strategies, sales performance, costs and other outcomes. For practitioners to ensure that companies are comparing similar establishments, restaurant data need to be reported under agreed upon categories. The user of restaurant industry reports should be able to identify findings as useful or not useful based on the site or company characteristics described by the author in the methodology section of the report. Thus, authors must clearly categorize the restaurant where data were collected using a typology which is sufficiently standardized as to permit the user to know whether or not the study is relevant to the user's specific interests.

Ideally, classification standards must be founded on a framework that is useful and accommodates the continuing diversification of establishments within the restaurant industry. This implies that leaders in the industry should monitor restaurant classification in four critical ways:

1. changes in industry practices for segmenting and labeling restaurants need to be approached cautiously and should be well-documented to support longitudinal studies and comparisons over time;

2. terminology crossover between segments should be eliminated, if possible (e.g. casual appears to be linked too often in non-strategic ways with the other myriad terms while upscale moves across segment boundaries and thus loses descriptive vigor);

3. communication of restaurant context, using a shared typology, should be encouraged as a standard reporting practice by industry leaders and publishers; and

4. a standard of practice should be implemented so that, when authors opt out of using known typologies, they are obliged to provide adequate restaurant context through other descriptive means.

Limitations and future research

The limitations of this study are related to the nature of conducting a comprehensive review of a field of literature. The sample is constrained by chosen search protocols and by library availability of selected journals and issue years. In addition, while we validated an overall preference for NRA as an industry categorization scheme, we did not evaluate the superiority of its performance nor did we investigate the possibilities of inter-institutional competition or cooperation between existing agencies whose typologies we cite. For example, the existence of competing classification systems for an industry could make it difficult to identify studies of restaurants with similar operating characteristics because researchers may be using different taxonomies to describe the business units they are investigating. Furthermore, it should be noted that perceptions about what restaurants are, and what they offer to guests, may change or grow with each new economic era, i.e. industrialization, service, information and experience economies. Nevertheless, the factors we have selected as primary criteria have proven to continue in importance over time (Carvalho de Rezende and Rodrigues Silva, 2013).

Several themes for future research emerge from this study. The five-step decision tool narrowly defines restaurants as meal-focused and place-bound, deliberately excluding alternate

foodservice types such as nightclubs, catered food services and food trucks because these were not the focus of the current study. The classification tool is not the final word on restaurant classification but instead serves as a springboard for future discussions about the restaurant construct itself. More examination of how restaurant taxonomies trickle down to individual practitioners is needed as well. Future research may also investigate the proposed typology from a global perspective.

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