Department Store Surveys as a Methodology in the Study of Linguistic Variation

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Abstract

This article provides an overall review on the methodology of Department Store Surveys (DSS), which refers to sociolinguistic surveys taking place in department stores in urban speech communities accompanied with unobtrusive observation techniques. DSS originated in Labov's pioneering study on the social stratification of (r) in New York City department stores, and has been applied to various speech communities thereafter. One of the most recent studies, extending DSS by adding another interviewer with a different identity, is discussed in particular. It is proposed that DSS allows us to study linguistic variation in two equally effective ways. At the micro-level, it offers insights into the structuring of a speech community with reference to linguistic variables; also, it informs our understanding of macro-level language use in public settings in a multilingual society. Finally, the strengths and limitations of DSS are evaluated in terms of data collection in urban speech communities.

Keywords**:** Department Store Surveys (DSS), sociolinguistic methodology, linguistic variation, speech community, market

1.   Introduction

1.1   Department Store Surveys

By 'Department Store Surveys' (DSS), as proposed here, we mean sociolinguistic surveys taking place in department stores in urban speech communities accompanied with unobtrusive observation techniques. The use of unobtrusive observation, or participant observation, is considerably common in sociolinguistic research, especially in traditional variationist studies (Tagliamonte, 2006). However, the present study focuses on another aspect of the methodology in question – *department stores* as a research site.

Speaking of department stores and sociolinguistics, the best example would be Labov's classic study (Labov, 1966) on the social stratification of (r) in three department stores in New York City (NYC). He, both as an interviewer and ordinary customer, asked the salespeople twice for directions of a certain product which was on the *fourth floor* to elicit the phonetic realisations of (r) in casual style and careful style respectively, which were then recorded in handwritten notes. This observation technique was later referred to as 'Rapid and Anonymous Surveys' (R&A) (Labov, 1984, p. 49). A number of parallel studies (e.g., Allen, 1968; Fowler, 1986; MacDonald, 1984) have been carried out since Labov (1966), while a great many other sociolinguistic studies continued to conduct language surveys in department stores but with alternative unobtrusive observation techniques (e.g., Van den Berg, 1986; Coluzzi, 2017; Gardner-Chloros, 1997; Zheng, 2019). Despite all the research cited, critiques have been made mainly on R&A rather than DSS as an independent methodology (e.g., Coupland & Jaworski, 1997; Holmes, 2013; Schilling-Estes, 2007). Thus, it seems that the method of DSS has been widely applied in sociolinguistic research on linguistic variation at both micro- and macro-level (see details in Section 2), yet has not gained enough recognition and is indeed worth an integral and complete account.

1.2   The Re-Conceptualisation of 'Market' in Sociolinguistics

As pointed out in Kelly-Holmes (2016), department stores were regarded as a physical and bounded research site in early sociolinguistic fieldwork (e.g., Labov, 1966). Although this treatment has been preserved in studies of many other urban communities – for example, in NYC (Fowler, 1986), in Long Island (Allen, 1968), and in various cities across the Taiwan Strait (e.g., Van den Berg, 1986, 2010, *inter alia*), it seems that much academic attention has been paid to the theorisation of an abstract notion of 'market' in sociolinguistics. Two related but distinct developments were Bourdieu's linguistic market (Bourdieu, 1991) and

Fairclough's Critical Discourse Analysis (Fairclough, 1995), transforming a physical *marketplace* to a theoretical *market*.

A fuller review on the re-conceptualisation of 'market' by sociolinguists can be found in Kelly-Holmes (2016). What is directly relevant to the present study is that department stores are still an important and practical site for sociolinguistic research on linguistic variation, but being in the contemporary marketized societies requires us to be mindful of an abstract concept of 'market' every time we inspect language use. It would be careless to draw a direct connection between linguistic practice occurring in modern department stores and the speakers' socio-economic status, between social classes and the ranking of department stores, without any knowledge of the speech community in question, of its history of urbanisation as well as marketisation.[1]

1.3 Organisation of the Present Study

The purpose of this article is to provide a unified account of the methodology of DSS and to offer some methodological directions for sociolinguistic research on linguistic variation at the micro- and macro-level. The article is organised as follows. Section 2 traces the origin of DSS and describes how it developed in later studies. Section 3 focuses on a recent study by Zheng (2019) for its extension of DSS, which examines the social stratification of (th) in the Malaysian English speech community. In Section 4, attempts are made to theorise the methodology of DSS and assess its strengths and limitations. Finally, closing remarks are given for further implications.

2. The Applications of Department Store Surveys

2.1 The Origin: Labov (1966)

The very first department store survey can be traced back to Labov (1966), depicted as 'a classical piece of empiricist research' (Coupland & Jaworski, 1997, p. 163). As a pilot study in the investigation of the social stratification of New York English, he collected the data of (r) in three NYC's department stores using the method of R&A. Two hypotheses were

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[1] With the proliferation of online shopping around the world, largely attributed to the rapid development of the Internet and logistic technology, consumers' behaviour would be reasonably expected to change. They, for example, might tend to spend less time buying goods and services in face-to-face interaction with salespeople in physical department stores; this tendency would more likely happen due to various restrictions during the current pandemic. It remains unclear as to how this change of shopping habits may affect the running of department stores and thus the application of DSS. Although it is certainly of potential research interest, it is nonetheless beyond the scope of this article and better to be reserved for future studies. We are grateful to one of the reviewers for bringing up this interesting issue.

proposed beforehand: (1) 'the variable (r) is a social differentiator in all levels of New York City speech', and (2) 'casual and anonymous speech events could be used as the basis for a systematic study of language' (Labov, 2006, p. 40). Before his fieldwork, three department stores were selected and ranked according to a number of factors, including location, advertising and price policies, physical plant, and most important, prestige and working conditions, as listed below:

1. Highest ranking: Saks Fifth Avenue
2. Middle ranking: Macy's
3. Lowest ranking: S. Klein

This ground-breaking study is well known for its simple and economical method of data collection. Instead of interviewing salespeople individually, the interviewer in the role of a customer asked them for directions to a certain item that was on the fourth floor. Consequently, the informants (the salespeople) would normally answer 'fourth floor' to the question (e.g., 'Excuse me, where are the women's shoes?'), where the pronunciations of (r) would thus be elicited. After the first answer, the interviewer leaned forward and pretended he had not heard it clearly and asked for a repetition. Another utterance of 'fourth floor', therefore, would be obtained in careful style with an emphatic stress as compared to the first response in casual style.

As predicted in the hypotheses, the results showed clear and consistent social and stylistic stratification of the (r) pronunciations of the salespeople in those department stores. His methodological innovation can be treated as a kind of unobtrusive observation, which succeeded in dealing with the problem of 'the Observer Paradox'[2] but still with obvious limitations (see Labov, 1984; also Section 4.2 below). To sum up, Labov (1966) exemplified the application of DSS in the study of linguistic variation, in this case showing clear social stratification of the linguistic variable (r) in department stores in NYC.

2.2   The Development of Department Store Surveys

In the past fifty years or so, a considerable number of DSS studies have been inspired by Labov's pioneering study. MacDonald (1984) and Fowler (1986) revisited the department stores in NYC. Fowler (1986), for instance, replicated Labov's survey in minute detail,

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[2] 'The Observer Paradox' is to observe how people speak when they are not being observed. Efforts to solve this paradox have been a central issue in sociolinguistic methodology (Labov, 2006).

despite one modification that one of the department stores had been replaced with another of equal ranking due to its closure after twenty years. The revisited study showed the same stratificational patterns as in Labov (1966) with an increase of the overall frequency of [r], which constitutes a real-time examination of *r*-pronunciation in the New York English speech community (see details in Labov, 1994, pp. 86-94). Another three similar DSS studies were carried out in Suffolk County by Allen (1968), in Austin by Harris (1969), and in Kuala Lumpur by Zheng (2019) (see more of this study in Section 3). The method of data-collecting was preserved in these studies, reflecting different sociolinguistic structures of different English speech communities.

DSS, as revealed in other studies, is more than applicable to the investigation of a single linguistic variable. As one area of public space, department stores constitute linguistic landscape (LL) where the use of written language and other signs are much aligned with commercial activities and which has already received attention from sociolinguists (e.g., Coluzzi, 2017; Jing, 2017). Coluzzi (2017) looks at the vitality of Italian in the LL of one shopping mall in Kuala Lumpur, and Jing (2017) scrutinises the multilingual commercial signs in department stores in Shanghai. It is not surprising that LL research can be carried out as an application of DSS, since department stores were originally included within the scope of LL which was defined by Landry and Bourhis (1997) as: 'The language of public road signs, *advertising billboards*, street names, place names, *commercial shop signs*, and public signs on government building combines to form the linguistic landscape of a given territory, region, or urban agglomeration' (p. 25, emphasis added).

Multilingualism, including language choice (Van den Berg, 1986), code-switching (Gardner-Chloros, 1997), language spread (Wang, 2009) and so on, can be investigated by DSS as well. This application of DSS has been extensively explored in the past thirty years by Van den Berg (1986, 2010, 2019, *inter alia*) across the Taiwan Strait. His initial attempt was made in 1978 and reported in Van den Berg (1986), which documented the language choice behaviour in a group of public settings (department store, market, bank, park) in Taiwan's major cities using unobtrusive observation techniques. After thirty years, a replication study by Chen (2009) examined the real-time change of language use in Taipei, and a slightly earlier one (Ang, 2004) with an identical method in Taoyuan has also been carried out. Moreover, Van den Berg's research has been in line with the development of urban language survey (ULS) in China (see Xu, 2006), leading to further applications of DSS in such Chinese metropolises as Shanghai (Van den Berg, 2005, 2007a, 2007b), Guangzhou (Van den Berg, 2010) and Xi'an (Van den Berg, 2019). These department store surveys have

inspired a few other similar studies by Chinese sociolinguists in different urban speech communities (e.g., Xu et al., 2005; Yu, 2012). What is common in the above studies is that transactional and non-transactional conversations are distinguished and divided into three types – i.e., customer-to-customer (CC), between-customer-and-salesperson (BT), and salesperson-to-salesperson (SS). One of the major findings is that the frequency of use of the high variety (e.g., Mandarin in China) in those urban communities in BT interactions is always higher than that in CC and SS conversations (Xu, 2006). However, it should be noted that DSS is usually accompanied by surveys in other public locations (e.g., markets, food stalls, and even coffee shops) to project a whole picture; and this methodology has been used to address different issues related to linguistic variation at the macro-level such as language vitality (Van den Berg, 2005; Coluzzi, 2017), language spread (Wang, 2009), and language planning (Van den Berg, 1986).

3. An Extension of Department Store Surveys: Zheng (2019)

3.1 An Overview of Zheng (2019)

One extended application of DSS has been seen in a recent study by Zheng (2019). This study examined the linguistic variable (th) in the Malaysian English (MalE) speech community with respect to its social and stylistic stratifications. Also, it aimed to examine the MalE speech community by comparing speech activities within and across speech communities (see details in Section 3.2). The study focused on the word-initial voiceless (th) (as in 'third') and distinguished the standard variant of (th) – the dental fricative [θ] referred to as *(th-1)* – from other non-standard realisations (e.g., [t], [f], etc.) as *(th-0)*. The *percentage of (th-1)*, namely, the occurrences of (th-1) divided by the sum of (th-1) and (th-0), was used to measure the frequency of occurrence of the standard variant.[3]

The procedures of data collection were fundamentally similar to Labov (1966). Three department stores in the capital of Malaysia, Kuala Lumpur, were chosen and stratified in a three-level scale as below:

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[3] One anonymous reviewer cast doubt on a possible influence of MalE speakers' linguistic repertoire on their pronunciations. This is not an unreasonable assumption. For example, Phoon et al. (2013) found that the frequency of (th)-stopping and (th)-fronting in the syllable-final position did vary to a certain extent in speakers of the three ethnic groups (Malay, Chinese, and Indian). However, since they also observed no significant between-group difference of (th)-stopping in the syllable-initial position (as in, for example, 'third' or 'three'), and only a two-way distinction (standard vs. non-standard) was made and documented in Zheng (2019), the difference of speakers' linguistic repertoire or ethnicity should have had minimal effects on the results.

1. Highest ranking: Pavilion KL (P)
2. Middle ranking: NU Sentral (N)
3. Lowest ranking: Sungei Wang Plaza (S)

The rationale for the ranking was based on various indicators of prestige, physical plant and retailer's brand in each department store. To elicit the pronunciation of the word-initial voiceless (th), the interviewer began with asking the salespeople the location of a retailer's outlet which he or she knew to be situated on the *third floor*. Once the salespeople answered, the interviewer would seek a careful repetition of 'third floor' by pretending not to have heard the initial response. When the interviewer was already on the third floor, the question would be changed to 'Excuse me, which floor is this?' Therefore, the realisation of (th) would be obtained in two styles – i.e., *casual style* (the first answer) and *careful style* (the second answer), all of which were documented in field notes.

Subsequently, the results showed a clear pattern of the overall use of the standard variant across three department stores as illustrated in Figure 1.1. The higher a department store is ranked, the more frequently the salespeople produced the standard variant of (th) (i.e., (th-1)).[4] The three-level stratification might further implicate the strata of sociolects in MalE, i.e., acrolect – mesolect – basilect[5], as proposed by many scholars (Bautista & Gonzalez, 2006; Pillai & Ong, 2018; Platt & Weber, 1980). In addition, according to Figure 1.2, it was found that the more attention the salespeople paid to their speech, the more standard forms they produced. However, the middle-ranked store NU Sentral displayed the largest difference of the frequency of (th-1) in style-shifting from 5.56% to 31.15%, causing two crossovers. The phenomenon of crossover was first discovered by Labov (1966) and described as 'a general characteristic of a second-highest group' (Labov, 2006, p. 151). It was argued that the salespeople in the middle rank showed a tendency towards hypercorrection as a result of

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[4] One anonymous reviewer questioned the representativeness of salespeople's linguistic patterns for the MalE speech community. Admittedly, salespeople make up a small portion of the whole speech community; but this study hypothesised that there would be fine social differences in Malaysian society, here, reflected in the differential use of (th) by individuals even of a single occupation – salespeople, which turned out to be proven. Additionally, this study was a preliminary exploration of social stratification of English in Malaysia as was Labov's pioneering study of that in NYC. Further research is undoubtedly needed, but for the purposes of pilot studies, it may be not unwise to select as a starting point the group of salespeople who are usually regarded as having a tendency to 'borrow prestige from their customers' (Labov, 1972, p. 45) indexed by their language behaviour.

[5] One of the reviewers queried whether all the three sociolects of MalE *are* used in department stores. While more research is needed to show other characteristics of MalE in public settings, the differential use of (th) should be considered a valid piece of evidence supporting the strata of sociolects of MalE.

linguistic insecurity, to which their supposedly higher degree of mobility[6] contributes. The mobility of their social group might be further strengthened by the high fluidity of the population in NU Sentral, which is right next to a national transportation hub in Malaysia (KL Sentral).
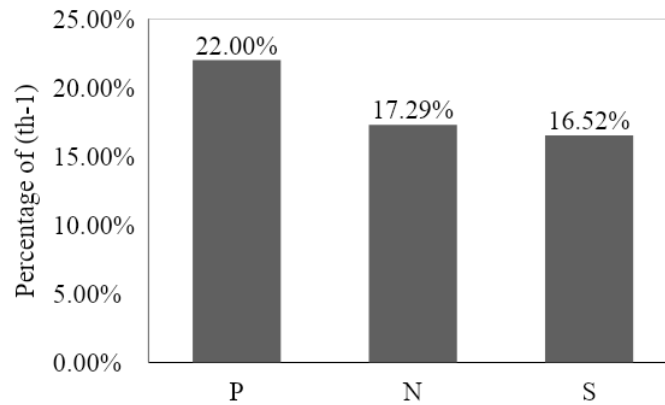
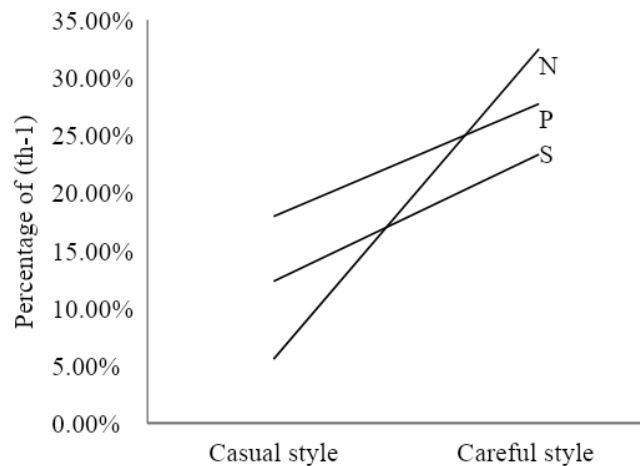Figure 1.1: Overall Frequency of (th-1) by Department Store (N = 398)

Figure 1.2: Overall Social Stratification and Stylistic Stratification of (th) (N = 398)

3.2   How Zheng (2019) Contributed to Department Store Surveys

DSS was extended and enhanced in Zheng (2019) specifically by adding a Chinese interviewer who is thus a non-member of the MalE speech community as opposed to the

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[6] For the lower middle class's linguistic insecurity, hypercorrect tendency, and social mobility, see Labov (1966, pp. 317-321). Whether this social group in Malaysia shows comparably higher social mobility according to the socio-economic measures still requires empirical evidence to be determined. Thanks to one anonymous reviewer for bringing this issue to our attention.

other Malaysian interviewer. The Malaysian interviewer as an *insider* has a typical MalE accent, while the non-Malaysian interviewer as an *outsider* a mixed accent (Chinese and British). Other variables, such as gender, age, clothing, time, research site, ways of interviewing, etc., were made sure to be identical in the two sets of interviews except for the day of the week (but both at the weekend). The objective of this add-on interviewer was to determine whether there would be any difference in the use of (th) both within the MalE speech community and across different speech communities.

As shown in Figure 2.1 and 2.2, it is evident that the language behaviour of a particular speech community may vary when its members are interacting with an outsider of the speech community. Based on daily experiences, it was assumed that more standard forms of a common language tend to be heard during communication between different speech communities. However, this was not the case in Zheng (2019). Irrespective of department store and speech style, the salespeople appear to have produced the non-standard variant of (th) more frequently while being interviewed by the non-Malaysian interviewer.
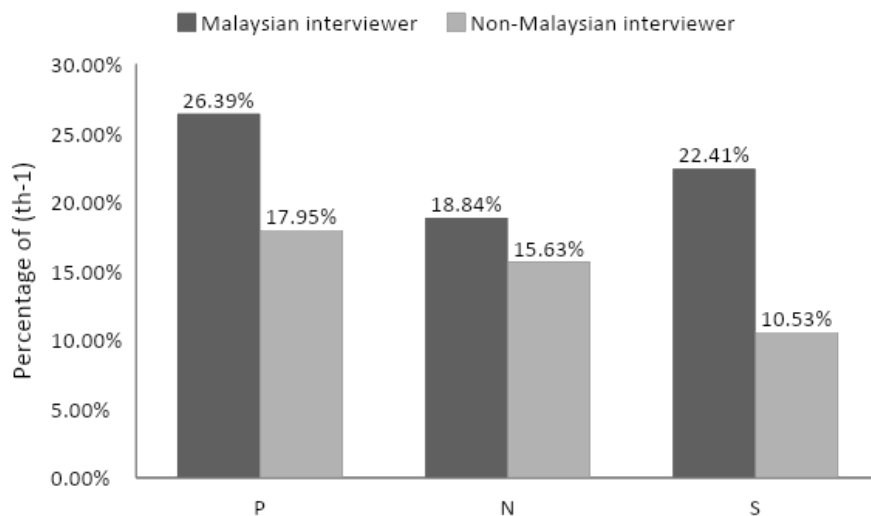

Figure 2.1: Frequency of (th-1) by Department Store and Interviewer (N = 398)
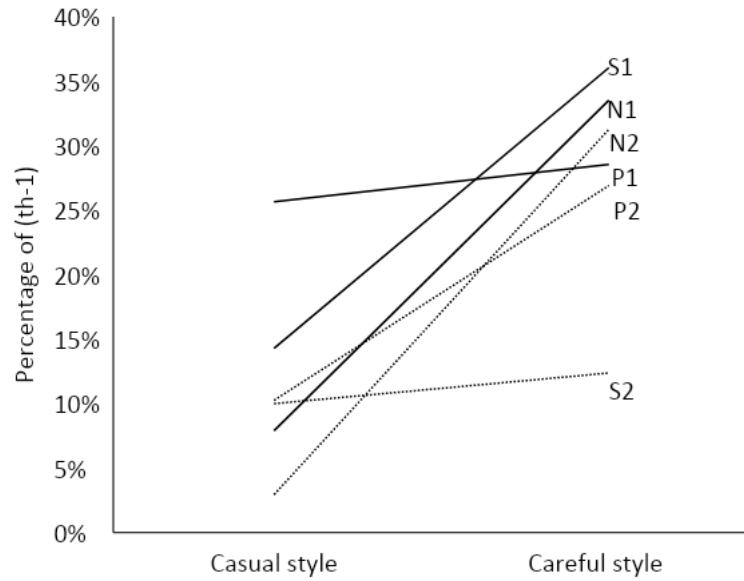
Figure 2.2: Social Stratification and Stylistic Stratification of (th) by Interviewer
(N = 398; 1 = Malaysian Interviewer, 2 = Non-Malaysian Interviewer)

One possible explanation has to do with the representation of membership of the MalE speech community. According to the Theory of Speech Community by Xu (2004), a speech community comprises five major components, i.e., *population*, *territory*, *interaction*, *identification*, and *facilities*, by which a speech community can be identified and verified. The differential use of (th), therefore, is seen as a facility or a *shared norm* in the MalE speech community. In tandem with other linguistic features that are distinct from standard English (e.g., substitution of simple vowels for particular diphthongs; cf., Pillar & Ong, 2018), the non-standard form of (th) tends to be felt as well as deployed as a symbol of the membership of the MalE speech community – that is, a sense of *Malaysianess* (cf., Pillai & Kamaruddin, 2006). In a speech community, it is the shared language behaviour and attitudes that 'represent, embody, construct and constitute meaning participation' (Morgan, 2014, p. 1), whereas the mechanism of this process may not be parallel to – sometimes even opposite to – what sociolinguists analysed from linguistic variation. For example, from the standpoint of the non-Malaysian interviewer, the less frequency of (th-1) might be understood as a deliberate speech divergence by Malaysian salespeople from the standard form (i.e., the dental fricative [θ]) that should have been preferred in communication across speech communities, which 'indicated their membership of the MalE speech community and signalled their wish to distinguish themselves from the outsider' (Zheng, 2019, p. 77).

The influence of the interviewer's identity was further supported by the differential use of contextual cues. As seen in Figure 2.2, the lowest ranked department store Sungei Wang Plaza where the outsider asked the questions (the dotted line S2) barely showed any style-shifting as compared to the insider (the solid line S1). This difference is much easier to understand if the style shift is treated as a reaction to an unsuccessful communication instead of an increase of formality. When a problem occurred in interactions, it was observed that the salespeople took rather different strategies to resolve it, comparing communication within the MalE speech community and between different speech communities. Within the speech community, they often shifted to the standard form of (th) or to another shared code – Malay (*Bahasa Melayu*, the national and official language of Malaysia); by contrast, they normally turned to three other contextual cues including *finger gestures* (referring to the number three), *finger-pointing* (upwards or downwards), *change of word* (from 'third floor' to 'three floor/ level three') to assist the non-Malaysian interviewer in figuring out the direction.

The basic notion of the extended study by Zheng (2019) is that language is not a static product presupposed in the human mind, rather it is subject to variation and change in different contexts as evident in the shift of speech style and the identity of the addressee. Thus, in the linguistic practice within and across speech communities, the speaker may exhibit different language behaviour to accommodate to or diverge from a new context, which would make the boundary of speech communities more observable to researchers. In this way, the methodology of DSS has been developed and enriched for the study of linguistic variation as well as of the speech community.

4. Theorising the Methodology of Department Store Surveys

4.1 Department Store Surveys as a Research Method for the Study of Linguistic Variation

Department stores are a typical institution that corresponds to the urbanisation of one region (Howard, 2015). We have argued that DSS should be, and has already been, the focus of academic attention in examining linguistic variation in urban speech communities. Generally, previous studies have applied this research approach mainly in two parallel strands.

The first one focuses on micro-level linguistic variation – that is, the variation of specific linguistic forms whether in phonetics or lexicon often referred to as *linguistic variables*. Most studies of this type take as their subject a single phonological linguistic variable in different varieties of English, such as the variable (r) in New York English (Allen,

1968; Labov, 1966), (th) in Malaysian English (Zheng, 2019), and (a) in Toronto English[7]. DSS has proved effective in providing a preliminary profile of a linguistic variable in a new urban area (Labov, 1984), which may reflect the structure of an urban speech community in many respects. From the perspective of traditional variationists, linguistic variation should be explored with reference to the social context. Although the data may be limited both in quantity and quality, this kind of studies does show social and stylistic stratification of linguistic variables in a quite consistent way as seen in Labov (1966) and later studies. Furthermore, as demonstrated in the preceding section, the most recent research carried by Zheng (2019) extended DSS as compared with Labov's original treatment, where two interviewers of different nationalities (i.e., different identities of the speech community in question) were arranged in order to compare the language behaviour within and across speech communities.

The other strand, at the macro-level, can inform our understanding of language use in public settings in a multilingual society. The department store is one common public domain for people to conduct transactions and perform linguistic practice in the sense of a physical market place. A noticeable number of studies have taken advantage of DSS in collecting data of language choice, often combined with surveys in local markets, banks, parks, etc., to obtain a complete picture. The data can be deployed to discuss issues related to diglossia (Chen, 2009), language planning (Van den Berg, 1986), language spread (Wang, 2009), code-switching (Gardner-Chloros, 1997), speech accommodation (Yu, 2012), and so on, most of which are closely associated with the process of urbanisation and the standardisation of a language in the speech community. With the ubiquity of *market*, several researchers have further conducted LL studies to work out the symbolic function and political economy of languages using the methodology of DSS (e.g., Coluzzi, 2017; Jing, 2017).

4.2   The Strengths and Limitations of Department Store Surveys

With the twofold applications illustrated above, DSS has clearly shown several strengths. DSS, as defined in the very beginning, are sociolinguistic surveys taking place in department stores in urban speech communities with the use of unobtrusive observation techniques. Employing unobtrusive methods in a large group gathering is undoubtedly economical and efficient in terms of time and human resources in contrast with, for example, the formal interview (cf., Webb et al., 1966). Vernacular data can be collected in a relatively short time

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[7] A study on this was carried out by one student of J. K. Chambers's (see Mallinson et al., 2018, p. xvii).

with minimal observer effects especially for the study of micro-level variation. Furthermore, the accessible research sites and data-collecting techniques enable researchers to carry out revisited studies for a real-time comparison, affording 'the availability of the population for rechecking' (Labov, 1972, p. 66). Such a comparison study may not only reveal language change, but also indicate the development of urbanisation in a speech community through the evidence of 'boundary-transgressing' – i.e., the fact that 'late modern consumer [may] frequent all three stores and [is] unpredictable and unclassifiable in his or her habits' (Kelly-Holmes, 2016, p. 159).

On the other hand, DSS shows a few possible sources of error that are chiefly concerned with the unobtrusive observations, but they are not unlikely to be overcome nevertheless. First, the data are inevitably limited in quantity and quality, lacking wide-ranging style-shifting (Labov, 1972), and accurate and complete demographic information of the informant (Schilling-Estes, 2007). This, in fact, is not so much a limitation as a by-product of DSS's efficient and economical characteristics. As such, it is more advisable to use DSS in preliminary explorations of the speech community in question, and under the guidance of initial results, to conduct a systematic study with other methods including sociolinguistic interviews, field experiments, questionnaire surveys, etc. (cf., Labov, 1966, 1984; also ft. 4 above). In addition, the possibility of interviewer bias does exist as most researchers simply record what they (over)hear or see in handwritten notes (cf., Webb et al., 1966, pp. 138-139). For some experienced scholars or some social factors to be studied, this point may not be problematic as it first appears[8]; however, complementary studies can be done to confirm, reject, or even revise the preliminary observation of DSS. For example, a full array of stylistic variation of several linguistic variables in NYC English was made clear with different techniques for isolating styles such as reading, word list, and minimal pair tests (Labov, 1966). Or, something that is omitted in field notes could turn out to be a general interactional practice (cf., Drew, 2014, pp. 231-232; Schegloff, 2004). The last point is that, the sampling seems not random and systematic in some studies, which can be tactically avoided by adding certain sampling procedures – for instance, by selecting every *n*th salesperson in department stores as the informants (Labov, 1972).

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[8] For example, Chen (2009, p. 175, ft. 2) claimed the biased cases of the informants' age and gender amounted to only a few in her study.

5.   Conclusion

This article sets out an overall review of the methodology of Department Store Surveys (DSS). DSS originated in Labov (1966) and has been applied in different urban speech communities in the following years (Allen, 1968; Van den Berg, 1986; Zheng, 2019; *inter alia*). By highlighting the case study of Zheng (2019), the article shows how DSS was developed and extended. This particular DSS study examined social and stylistic stratification of the linguistic variable (th) in the MalE speech community and how its membership was constructed and represented in interaction across different speech communities by adding an interviewer with a different nationality. This line of enquiry still awaits more empirical research; nonetheless, it does broaden our horizons in the sense that DSS is demonstrably not limited to just asking 'which floor is this' or overhear others' conversations in department stores.

Furthermore, it has been asserted that DSS can contribute to the study of linguistic variation in two parallel and complementary strands. At the micro-level, it offers insights into the structuring of a speech community with respect to the differential use of linguistic variables; on the other hand, it can inform our understanding of the macro-level language use in public settings in a multilingual society. Undoubtedly, both perspectives will continue to equally serve sociolinguistic research in a highly marketized and globalised world.

As with any other method, DSS has its own strengths and limitations, pertaining to either the specific research site or unobtrusive observation techniques. Quoted from Labov (1984): 'no one method is excellent in all respects, and some are very sharply limited' (p. 50). Consequently, it would be more beneficial for researchers to use several methods jointly to obtain reliable data and fully understand linguistic variation in a speech community according to different research objectives and resources in hand. Choosing appropriate research methods is itself a matter of methodology.

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